

# CTP

## USERS' HANDBOOK

A successor to the  
Content Standards Manual



If you have any questions, please contact CTP Operations at (866) 683-2335 or (646) 503-2699 or send an e-mail to [erbsupport@erblearn.org](mailto:erbsupport@erblearn.org).

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**CTP USERS' HANDBOOK**

**A successor to the Content Standards Manual.**

This new edition of the Users' Handbook has been redesigned to offer CTP users easy access to almost three hundred sample questions selected from every CTP subtest, content strand, and testing level. The goal of the selection of questions is to demonstrate the assessment methodology and question formats students will see in the actual CTP. Be sure to visit the online version of this handbook at <https://ctphandbook.erblearn.org> to take advantage of our interactive sample question database.

**For school administrators**, this Handbook will be useful to understand exactly what is measured by the CTP and how your school's results provide insight into the learning environment.

**For teachers**, this Handbook unlocks deeper understanding of an individual student's precise areas of strength and areas needing further development.

**For students and teachers**, the sample questions—representing every ERB learning standard and multiple testing levels for each CTP subtest—are formatted exactly as they appear on the test, offering insight into the assessment strategies actually used on the CTP.

## THE VALUE OF CTP

Most users of this Handbook will be school administrators and teachers who are already committed to using the test and interpreting the results. Even so, it is worthwhile to pause a moment before diving into the rich information contained here to ask a very basic and important question: What is the value of the CTP?

Like any other test or challenge related to one's skills or abilities, the CTP will yield value in proportion to the effort that is put into it.

- For the student, taking the CTP can be seen as a diversion from the normal school day or as a tool to help you gauge your learning accomplishments and extend your limits.
- For parents, CTP results can offer "assessment-at-a-glance," much like a report card, or can offer deep insight into your child's profile of strengths and weaknesses, and into their learning trajectory.
- For teachers, examining your students' CTP results compared to the results of other students—whether from independent schools, a national sample of all students, or your own school's test-takers at the same level—can provide a rigorous foundation for differentiation of instruction far beyond the insights available from any other assessment tool.
- For learning coordinators, curriculum committees, division heads, and school leaders, CTP results in a given year and over time provide evidence of excellence in fostering the educational growth of every student in your care as well as indications of content areas where you may want to review existing curriculum and instruction.

A commitment to administering the CTP is not a small commitment. With approximately six hours of testing time often spread over three or four days, the CTP contains seven Verbal Subtests and three Quantitative Subtests. There are typically three to seven content strands within each subtest, and multiple specific skills or learning standards within each content strand. Subtests, content strands, and learning standards are all customized to each level from 1 through 10 using input from national panels of independent school teachers based on the curricula in their schools.

In short, CTP is for those who take education seriously, and who recognize that excellence in education requires a deep base of insight into learning achievement for every student.

As an educational institution ourselves, ERB honors the commitment involved in administering and taking the CTP by focusing our test development on a comprehensive approach to the most important dimensions of learning. CTP 5, the fifth generation of this assessment, places more emphasis than ever before on demonstrations of proficiency in applying concepts and developing problem-solving strategies. It is a test not just of what students know, but of what they can do with what they know.

We are confident you will find the fifth generation ERB's CTP to be a more powerful assessment of learning than ever before, and this Handbook a valuable guide to getting the maximum possible insight from it.

**SINCERELY,**

Thomas R. Rochon, Ph.D.  
President, ERB

## ABOUT CTP

The Comprehensive Testing Program (CTP) is a rigorous assessment of individual student and group achievement of essential standards and learning domains in English Language Arts and Mathematics. The CTP provides useful information about student performance in grades 1–11 in listening, reading, vocabulary, writing, mathematics, and science. In addition, CTP assesses verbal and quantitative reasoning skills and abilities in Levels 3–11. The combined measures can be used to compare more content-specific, curriculum-based indicators on performance (scores on the achievement tests) to the more conceptual knowledge base that helps gauge potential (scores on the reasoning tests).

All CTP content strands and learning standards within the strands were developed by national advisory bodies of teachers from the relevant subject areas and grade levels. These content strands and learning standards align with standards promulgated by the National Council of Teachers of English, International Reading Association, and the National Council of Teachers of Mathematics Principles and Standards. CTP test questions are constructed in alignment with Webb's Depth of Knowledge model, which provides insights into a student's ability to move beyond recall through application to strategic thinking and reasoning. In addition, independent review demonstrates that CTP has strong alignment with the Common Core Standards.

## USING THE HANDBOOK

The CTP 5 Users' Handbook explains the architecture of the CTP 5 assessment and defines the concepts and skills that each subtest measures. It provides an overview of the subtests at each level as well as an explanation of the content strands within each subtest.

The handbook also explores the ERB Learning Standards that each content strand covers and contains sample questions, often for multiple levels, to demonstrate how these learning standards are translated into questions.

Every sample question includes a rationale for the correct answer and lists its Depth of Knowledge (DOK) classification. These details enable educators to identify the problem-solving strategies, like synthesis, inference, and application of concepts, required to answer each sample question.

### Handbook Sections

The Handbook is organized the same way that CTP 5 test questions are—from the most general way that questions are classified to the most specific. The Handbook begins by exploring the subtests and content strands for each level then moves on to Depth of Knowledge levels and ERB Learning standards. The handbook also includes a searchable bank of sample questions.

### Subtests

Discover the actual specifications for each operational subtest including the numbers of questions in each subtest's content strands.

### Learning Standards

ERB learning standards define the concepts and skills measured in a content strand. This section describes how these standards were developed.

### Depth of Knowledge

Every CTP 5 question is classified by its cognitive complexity based on Norman Webb's Depth of Knowledge (DOK) model. This section allows you to review these DOK definitions.

### Content Strands

This section defines the content strands assessed by each subtest at any given level. It also explains how a subtest's focus—particularly in mathematics—changes from level to level.

## Handbook Use Cases

### What are the expectations for students in a particular level taking a particular subtest?

Search the sample questions by the desired level and subtest to view representative questions.

### How do the expectations for students change from one level to another in each subtest?

Search the sample questions by the desired subtest and levels to view sample questions across multiple levels.

### How does the Quantitative Reasoning subtest differ from the Mathematics subtest?

Search the sample questions by the Quantitative Reasoning and Mathematics subtests, desired level, content strand, and learning standard. For a complete description of the subtests, refer to the Subtest Specifications and Content Strands sections of this Handbook.

### What how much must students read during the Reading Comprehension subtest? What type of reading is included?

Search the sample questions by the Reading Comprehension subtest and the desired level. For a complete description of the subtest, refer to the Subtest Specifications and Content Strands sections of this Handbook.

### How does CTP define "Verbal Reasoning?"

Search the sample questions by the Verbal Reasoning subtest across all levels and review each question's learning standards. For a complete description of the subtest, refer to the Subtest Specifications and Content Strands sections of this Handbook.

### What does a Depth of Knowledge Level 3 (DOK 3) question look like in comparison to a DOK 2 question?

Search the sample questions by the desired content strand for both DOK 2 and DOK 3 questions to compare them side by side.

## OVERVIEW

### Verbal Subtests

The CTP Verbal tests emphasize the development of reading and language skills necessary for effective communication both in academic settings and in the world beyond the classroom. The CTP Verbal Tests assess students in the following areas: Word Analysis, Auditory Comprehension, Verbal Reasoning, Vocabulary, Reading Comprehension, Writing Mechanics, and Writing Concepts and Skills.

Each of these seven subtests represents a distinct facet of verbal ability, but the skills measured are interrelated, and the tests should be considered parts of a whole and compared to each other as well as to comparative norm groups. Verbal Reasoning assesses the student's ability to conceptualize relationships among words and concepts and draw conclusions based on incomplete information, reasoning analytically, categorically, and logically. Vocabulary is based on research that indicates that reading fluency depends upon an extensive vocabulary, and the ability to use words appropriately given the context and to distinguish shades of meaning. Reading Comprehension measures a student's ability to comprehend, evaluate, and draw conclusions using a variety of strategies to analyze both fiction and nonfiction text.

The verbal skills and concepts tested in each subtest at each level build on one another as well as on skills already mastered. At Levels 1 and 2, for example, the Word Analysis test specifically emphasizes the phonemic awareness and decoding skills that are vital for beginning readers. As students move through the years, these skills are measured using developmentally appropriate, but also challenging and complex texts, which assume students will draw upon strategies and skills with increasing fluency and comprehension over time.

The CTP Writing Mechanics subtest requires students to identify misspellings, recognize and correct mistakes in capitalization and punctuation, and recognize correct and incorrect grammatical and syntactical usage. The Writing Concepts and Skills subtest requires a student to integrate knowledge of the rules of grammar and usage with an understanding and recognition of the essential elements of good writing. Choosing appropriate details for a particular audience or purpose, understanding how to accomplish a particular writing goal, and choosing the most effective language in a particular context are all part of what is measured in this subtest.

Overall, the Verbal tests offer a rich set of lenses with which to view a student's achievement and reasoning skills in English Language Arts.

### Mathematics Subtests

The CTP Mathematics subtests consist of Mathematics, Quantitative Reasoning, and an Algebra I test given at Levels 7, 8, or 9, depending on a particular school's curriculum. Each subtest includes questions that assess students' understanding and application of a variety of content and process areas in mathematics. The CTP Mathematics tests parallel the NCTM's categories, with slight modifications that are appropriate for each grade level. Items in mathematics content strands important for students in grades K-12 are grouped under five main categories in the mathematics subtests: Numbers and Operations, Algebra, Geometry, Measurement, and Data Analysis and Probability. These CTP Mathematics content strands should be viewed as complementary rather than as exclusive.

The CTP Mathematics questions also assess the following mathematical processes: Conceptual Understanding, Procedural Knowledge, and Problem Solving. Questions that are classified under Conceptual Understanding ask a student to recognize and manipulate fundamental ideas in mathematics. Questions that are classified under Procedural Knowledge ask a student to recall factual information about mathematics or to demonstrate understanding of basic algorithms. Questions that are classified under Problem Solving ask a student to apply and integrate concepts or to identify appropriate strategies.

Levels 3 to 10 of the CTP include Quantitative Reasoning tests to assess a student's ability to engage (in age-level appropriate ways) in pattern recognition, classification, and reasoning in all content strands, including logic, arithmetic, algebra, geometry, probability, and statistics. In the test questions, a student must use mathematics to make comparisons, formulate extensions or generalizations of mathematical concepts, and analyze mathematical situations.

The following tables display the number of scored questions that appear on each subtest and in each content strand. The number of questions for each content strand varies slightly between the paper and pencil and online formats. Additionally, the number

of questions that appear on an actual test may vary by  $\pm 2$  from the numbers in these tables as CTP offers multiple test forms with slightly different questions. Online tests include a number of unscored field trial questions.

## CTP 5 (PAPER & PENCIL) Mathematics Subtests

Spring Grade to Fall Grade:	LEVEL 1 1 to 2	LEVEL 2 2 to 3	LEVEL 3 3 to 4	LEVEL 4 4 to 5	LEVEL 5 5 to 6	LEVEL 6 6 to 7	LEVEL 7 7 to 8	LEVEL 8 8 to 9	LEVEL 9 9 to 10	LEVEL 10 10 to 11
<b>Mathematics</b>	<b>37</b>	<b>37</b>	<b>84</b>	<b>84</b>	<b>84</b>	<b>84</b>	<b>84</b>	<b>84</b>	<b>84</b>	<b>84</b>
Conceptual Understanding	12	14	35	31	27	28	30	31	28	28
Procedural Knowledge	12	10	23	24	28	28	28	26	28	28
Problem Solving	13	13	26	29	29	28	26	27	28	28
Number Sense and Operations with Whole Numbers	16	15	34	28						
Number Sense and Operations with Fractions and Decimals			8	13						
Number Systems and Number Theory					14	13	13	9		
Number and Number Relationships					14	12	12	13	14	10
Geometry and Spatial Sense			13	13	12	13	12	12	25	24
Measurement			13	12	12	12	13	13		
Geometry and Measurement	15	13								
Probability					9	9	9	8		
Statistics					10	10	9	8		
Pre-Algebra					13	15	16	21		
Data Analysis, Statistics, and Probability			8	8					13	9
Patterns, Functions, and Pre-Algebra			8	10						
Functions and Data Analysis	6	9								
Algebra									32	22
Functions										19
<b>Quantitative Reasoning</b>			<b>50</b>	<b>50</b>	<b>50</b>	<b>50</b>	<b>50</b>	<b>50</b>	<b>50</b>	<b>50</b>
Comparison			20	20	20	24	16	18	15	16
Extensions/Generalizations			23	17	17	17	14	19	22	16
Analysis			7	13	13	9	20	13	13	18
<b>Algebra I</b>							<b>45</b>	<b>45</b>	<b>45</b>	
Expressions, Statements, and Matrices							12	12	12	
Equations and Inequalities							15	15	15	
Tables, Graphs, and Algebraic Geometry							10	10	10	
Situations Involving Variable Quantities							8	8	8	
Spring Grade to Fall Grade:	LEVEL 1 1 to 2	LEVEL 2 2 to 3	LEVEL 3 3 to 4	LEVEL 4 4 to 5	LEVEL 5 5 to 6	LEVEL 6 6 to 7	LEVEL 7 7 to 8	LEVEL 8 8 to 9	LEVEL 9 9 to 10	LEVEL 10 10 to 11

**CTP 5 (PAPER & PENCIL) Verbal Subtests**

	LEVEL 1 1 to 2	LEVEL 2 2 to 3	LEVEL 3 3 to 4	LEVEL 4 4 to 5	LEVEL 5 5 to 6	LEVEL 6 6 to 7	LEVEL 7 7 to 8	LEVEL 8 8 to 9	LEVEL 9 9 to 10	LEVEL 10 10 to 11
Spring Grade to Fall Grade:	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11
<b>Word Analysis</b>	50	50								
Sight Words	12	8								
Phonic Analysis	27	25								
Structural Analysis	11	17								
<b>Auditory Comprehension</b>	40	40	40							
Vocabulary in Context	8	8	8							
Explicit Information	13	8	16							
Inference	10	11	8							
Analysis	9	13	8							
<b>Reading Comprehension</b>	32	32	37	37	37	37	37	37	37	37
Vocabulary in Context	8	8	8							
Explicit Information	8	8	14	17	14	14	15	13	15	13
Inference	8	8	7	11	14	13	12	15	10	12
Analysis	8	8	8	9	9	10	10	9	12	12
<b>Writing Mechanics</b>		45	45	45	45	45	45	45	45	45
Spelling		12	10	10	10	10				
Capitalization		12	10	10	8	7				
Punctuation		12	10	10	11	12				
Usage		9	15	15	16	16	19	19	23	23
Spelling, Capitalization, and Punctuation (Combined)							18	18	22	22
Sentence Construction							8	8		
<b>Writing Concepts and Skills</b>			50	50	50	50	50	50	50	50
Organization			15	16	14	13	16	17	16	14
Purpose, Audience, and Focus			10	10	10	11	9	8	8	13
Supporting Details			17	16	14	14	15	15	15	14
Style and Craft			8	8	12	12	10	10	11	9
<b>Verbal Reasoning</b>			45	45	45	45	45	45	45	45
Analogical Reasoning			17	17	16	16	15	15	14	14
Categorical Reasoning			14	13	12	12	15	15	12	13
Logical Reasoning			14	15	17	17	15	15	19	18
<b>Vocabulary</b>				35	35	35	35	35	35	35
Word Meanings				13	13	11	13	13	18	18
Precision				9	9	9	8	8	8	8
Application				13	13	15	14	14	9	9
Spring Grade to Fall Grade:	LEVEL 1 1 to 2	LEVEL 2 2 to 3	LEVEL 3 3 to 4	LEVEL 4 4 to 5	LEVEL 5 5 to 6	LEVEL 6 6 to 7	LEVEL 7 7 to 8	LEVEL 8 8 to 9	LEVEL 9 9 to 10	LEVEL 10 10 to 11

CTP ONLINE Mathematics & Science Subtests

	LEVEL 1 1 to 2	LEVEL 2 2 to 3	LEVEL 3 3 to 4	LEVEL 4 4 to 5	LEVEL 5 5 to 6	LEVEL 6 6 to 7	LEVEL 7 7 to 8	LEVEL 8 8 to 9	LEVEL 9 9 to 10	LEVEL 10 10 to 11
Spring Grade to Fall Grade:	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11
<b>Mathematics (Part 1 &amp; Part 2)</b>	<b>32</b>	<b>32</b>	<b>60</b>	<b>60</b>	<b>60</b>	<b>60</b>	<b>60</b>	<b>60</b>	<b>60</b>	<b>60</b>
Conceptual Understanding	10	12	25	22	19	20	21	22	20	20
Procedural Knowledge	10	9	16	17	20	20	20	19	20	20
Problem Solving	12	11	19	21	21	20	19	19	20	20
Number Sense and Operations with Whole Numbers	14	13	20	18						
Number Sense and Operations with Fractions and Decimals			8	9						
Number Systems and Number Theory					10	9	9	8		
Number and Number Relationships					9	8	8	8	10	8
Geometry and Spatial Sense			8	9	8	9	8	8	18	16
Measurement			8	8	8	8	8	8		
Geometry and Measurement	10	11								
Probability					8	8	8	8		
Statistics					8	8	8	8		
Pre-Algebra					9	10	11	12		
Data Analysis, Statistics, and Probability			8	8					9	8
Patterns, Functions, and Pre-Algebra			8	8						
Functions and Data Analysis	8	8								
Algebra									23	15
Functions										13
<b>Quantitative Reasoning</b>			<b>45</b>	<b>45</b>	<b>45</b>	<b>45</b>	<b>45</b>	<b>45</b>	<b>45</b>	<b>45</b>
Comparison			18	18	18	22	14	16	13	14
Extensions/Generalizations			15	15	15	15	13	17	20	15
Analysis			12	12	12	8	18	12	12	16
<b>Algebra I</b>							<b>40</b>	<b>40</b>	<b>40</b>	
Expressions, Statements, and Matrices							10	10	10	
Equations and Inequalities							14	14	14	
Tables, Graphs, and Algebraic Geometry							8	8	8	
Situations Involving Variable Quantities							8	8	8	
<b>Science</b>			<b>42</b>	<b>42</b>	<b>42</b>	<b>42</b>	<b>42</b>	<b>42</b>	<b>42</b>	
Nature of Science			8	8	8	9	10	11	10	
Physical Science			13	12	16	16	12	10	11	
Earth Science			8	8	8	8	8	11	8	
Life Science			13	14	10	9	12	10	13	
Spring Grade to Fall Grade:	LEVEL 1 1 to 2	LEVEL 2 2 to 3	LEVEL 3 3 to 4	LEVEL 4 4 to 5	LEVEL 5 5 to 6	LEVEL 6 6 to 7	LEVEL 7 7 to 8	LEVEL 8 8 to 9	LEVEL 9 9 to 10	LEVEL 10 10 to 11

CTP ONLINE Verbal Subtests

Spring Grade to Fall Grade:	LEVEL 1 1 to 2	LEVEL 2 2 to 3	LEVEL 3 3 to 4	LEVEL 4 4 to 5	LEVEL 5 5 to 6	LEVEL 6 6 to 7	LEVEL 7 7 to 8	LEVEL 8 8 to 9	LEVEL 9 9 to 10	LEVEL 10 10 to 11
<b>Word Analysis</b>	45	45								
Sight Words	11	8								
Phonic Analysis	24	23								
Structural Analysis	10	14								
<b>Auditory Comprehension</b>	40	40	40							
Vocabulary in Context	10	9	8							
Explicit Information	11	9	14							
Inference	10	11	9							
Analysis	9	11	9							
<b>Reading Comprehension</b>	30	30	32	32	32	32	32	32	32	32
Vocabulary in Context	8	8	8							
Explicit Information	8	8	8	13	11	11	12	10	12	12
Inference	7	7	8	10	12	11	10	13	10	10
Analysis	7	7	8	9	9	10	10	9	10	10
<b>Writing Mechanics</b>		40	40	40	40	40	40	40	40	40
Spelling		10	9	9	9	9				
Capitalization		10	11	9	9	9				
Punctuation		11	10	9	9	9				
Usage		9	10	13	13	13	16	16	20	20
Spelling, Capitalization, and Punctuation (combined)							15	15	20	20
Sentence Construction							9	9		
<b>Writing Concepts and Skills</b>			40	40	40	40	40	40	40	40
Organization			11	11	10	10	12	12	12	10
Purpose, Audience, and Focus			8	8	9	10	8	8	8	11
Supporting Details			13	13	11	11	11	11	11	11
Style and Craft			8	8	10	9	9	9	9	8
<b>Verbal Reasoning</b>			40	40	40	40	40	40	40	40
Analogical Reasoning			16	15	14	14	14	14	12	12
Categorical Reasoning			12	12	11	11	13	13	11	12
Logical Reasoning			12	13	15	15	13	13	17	16
<b>Vocabulary</b>				30	30	30	30	30	30	30
Word Meanings				10	10	9	10	10	13	13
Precision				9	9	9	8	8	8	8
Application				11	11	12	12	12	9	9
Spring Grade to Fall Grade:	LEVEL 1 1 to 2	LEVEL 2 2 to 3	LEVEL 3 3 to 4	LEVEL 4 4 to 5	LEVEL 5 5 to 6	LEVEL 6 6 to 7	LEVEL 7 7 to 8	LEVEL 8 8 to 9	LEVEL 9 9 to 10	LEVEL 10 10 to 11

## DEPTH OF KNOWLEDGE

In addition to multiple levels of content classifications, every CTP 5 question has been classified according to its cognitive complexity. Based on Norman Webb's model of aligning the cognitive demands of an assessment task with learning standards, all questions that appear on CTP 5 have been classified as DOK 1, 2, or 3.

The Webb Depth of Knowledge model aligns what an assessment task or question requires a student to do with what a learning standard says a student should know or be able to do. The simplest level of cognitive complexity—DOK 1—is simply recall or recognition: recognize a misspelled word, a synonym or antonym, the correct mathematical formula. DOK 2 questions require a student to go beyond just recall and make decisions about how to approach a problem, how to apply a particular rule, how to connect two different parts of a text. DOK 3 questions require students to analyze or evaluate a situation, to create a strategy or approach to a solution, to support a position with evidence.

Note that there are variations in the representation of DOK levels across CTP subtests due to the nature of the subject matter. For instance, Verbal Reasoning and Quantitative Reasoning do not include DOK Level 1 questions as there are no factual recall items in these subtests. Additionally, Writing Mechanics and Vocabulary do not include DOK Level 3 questions because these subtests measure grammar, syntax, and word meaning—areas that do not lend themselves to the higher level of analysis that is characteristic of DOK Level 3.

It is also important to remember that Depth of Knowledge is NOT the same as difficulty. Two vocabulary questions requiring recognition of a synonym might be very different in their difficulty (for example, “obscure” and “obfuscate”), but identical in their cognitive complexity. Some very difficult mathematics questions require a student to apply more than one difficult formula, but this does not make them DOK 3 questions. What the DOK classification focuses on is the cognitive work a student must do to answer the question.

### English Language Arts

#### Depth of Knowledge Level 1 (DOK 1):

DOK 1 requires students to receive or recite facts or to use simple skills or abilities. Questions require only a shallow understanding of text presented and often consist of verbatim recall from text or simple understanding of a single word or phrase.

#### Depth of Knowledge Level 2 (DOK 2):

DOK 2 includes the engagement of some mental processing beyond recalling or reproducing a response; it requires both comprehension and subsequent processing of text or portions of text. Inter-sentence analysis of inference is required. Some important concepts are covered but not in a complex way. Questions at this level may include words such as “summarize,” “interpret,” “infer,” “classify,” “organize,” “collect,” “display,” “compare,” and “determine whether fact or

opinion.” Literal main ideas are stressed. A DOK 2 assessment question may require students to apply some of the skills and concepts that are covered in DOK 1.

#### Depth of Knowledge Level 3 (DOK 3):

Deep knowledge becomes more of a focus at DOK 3. Students are encouraged to go beyond the text; however, they are still required to show understanding of the ideas in the text. Students may be encouraged to explain, generalize, or connect ideas. Questions at DOK 3 involve reasoning and planning. Students must be able to support their thinking. Questions may involve abstract theme identification, inference across an entire passage, or students' application of prior knowledge. Questions may also involve more superficial connections between texts.

### Mathematics and Quantitative Reasoning

#### Depth of Knowledge Level 1 (DOK 1)

DOK 1 (Recall) questions require students to recall or recognize facts, terms, and definitions, as well as to perform simple procedures. These questions require students to use a simple, well-defined, algorithmic one-step procedure to arrive at a solution.

#### Depth of Knowledge Level 2 (DOK 2):

DOK 2 (Basic Application of Skill/Concept) includes the engagement or some mental processing beyond a habitual response: use of information, conceptual knowledge, selection of appropriate procedures for a task, use of two or more steps with decision points along the way. DOK 2 level tasks may ask a student to “classify,” “organize,” “estimate,” “make observations,” and “compare data.”

Some representative examples of DOK 2 performance are:

- Requiring students to make some decisions as to how to approach the problem or activity.
- Explaining the purpose and use of experimental procedures.
- Carrying out experimental procedures.
- Making observations and collecting data.
- Classifying, organizing, and collecting data.
- Organizing and displaying data in tables, graphs, and charts.

**Depth of Knowledge Level 3 (DOK 3):**

DOK 3 (Strategic Thinking) requires reasoning, planning, using evidence, and possibly developing a plan or sequence of steps to approach problems. These tasks may require some decision-making and justification, and/or abstract, complex, or non-routine chains of reasoning. In most instances, requiring students to explain their thinking is a DOK 3 kind of task. Activities that require students to make conjectures are also at this level. Evaluating, critiquing, or considering other solutions is also a DOK 3 type of task.

Some representative examples of DOK 3 performance are:

- Drawing conclusions from observations.
- Citing evidence and developing a logical argument for concepts.
- Explaining phenomena in terms of concepts.
- Using concepts to solve problems.
- Interpreting information from a complex graph that requires some decisions on what features of the graph need to be considered and how information from the graph can be aggregated.

See Norman Webb's 2002 paper.

<http://facstaff.wcer.wisc.edu/normw/All%20content%20areas%20%20DOK%20levels%2032802.pdf>

See Karen Hess' summary.

[https://www.nciea.org/sites/default/files/publications/DOKmath\\_KH08.pdf](https://www.nciea.org/sites/default/files/publications/DOKmath_KH08.pdf)

[https://www.nciea.org/sites/default/files/publications/DOKreading\\_KH08.pdf](https://www.nciea.org/sites/default/files/publications/DOKreading_KH08.pdf)

[https://www.nciea.org/sites/default/files/publications/DOK\\_ApplyingWebb\\_KH08.pdf](https://www.nciea.org/sites/default/files/publications/DOK_ApplyingWebb_KH08.pdf)

**ERB LEARNING STANDARDS**

The ERB learning standards within each content strand for each subtest were developed by national advisory bodies of teachers from the relevant subject areas and grade levels. These content strands and learning standards align with standards promulgated by the National Council of Teachers of English, International Reading Association, and the National Council of Teachers of Mathematics Principles and Standards. In addition, independent review demonstrates that CTP has strong alignment with the Common Core Standards. The learning standards for each content strand in a subtest articulate the definition and architecture of the concepts and skills measured in that content strand.

To view complete descriptions of the ERB Learning Standards please visit the CTP Users' Handbook Website.

<https://ctphandbook.erblearn.org>.

## AUDITORY COMPREHENSION

The CTP Auditory Comprehension test at Level 1 measures a student's ability to understand and interpret information presented orally. In addition to being able to listen to and follow the directions for taking the test itself, students must also be able to recognize and understand important words and plot points and to interpret and analyze information presented in a story read aloud. The development of good listening skills parallels and reinforces the development of good reading skills, and the skills tested in the Auditory Comprehension test therefore parallel those tested in the Reading Comprehension test. The following is a list of the skills measured by the CTP Auditory Comprehension test at Level 1.

### Vocabulary in Context

The student will be able to use context clues to determine the meaning of a word or phrase in a text read aloud and choose the correct definition or synonym.

### Explicit Information

The student will be able to identify explicit details from a passage read aloud and provide answers to "who," "what," "where," "when," "why," and "how" questions about the text.

### Inference

The student will be able to:

- Use implicit information from a passage read aloud to make inferences about the motives or behaviors of characters.
- Use implicit information from a passage read aloud to summarize or draw conclusions.

### Analysis

The student will be able to:

- Draw connections between and among various pieces of information in a text read aloud.
- Synthesize explicit and implicit information to make predictions or draw conclusions about a text read aloud.

## READING COMPREHENSION

The CTP Reading Comprehension test at Level 1 measures a student's ability to understand and interpret written text. The NCTE/IRA *Standards for the English Language Arts* emphasizes the importance of being able to use a "wide range of strategies to comprehend, interpret, evaluate, and appreciate text," including "word identification strategies" (31). The CTP Reading Comprehension test requires a student to draw on these strategies to interpret and analyze a range of texts, both fiction and nonfiction. The following is a list of the skills measured by the CTP Reading Comprehension test at Level 1.

### Vocabulary in Context

The student will be able to use context clues to determine the meaning of a word or phrase in a text and choose the correct definition or synonym.

### Explicit Information

The student will be able to identify explicit details from a passage and provide answers to "who," "what," "where," "when," "why," and "how" questions about the text.

### Inference

The student will be able to:

- Use implicit information from a passage to make inferences about the motives or behaviors of characters.
- Use implicit information from a passage to summarize or draw conclusions.

### Analysis

The student will be able to:

- Draw connections between and among various pieces of information in a text.
- Synthesize explicit and implicit information to make predictions or draw conclusions about a text.

## WORD ANALYSIS

Systematic vocabulary development is essential for reading fluency, and building phonemic awareness — learning the sound structure of language — is important for students in grades 1–3. Students must be able not only to recognize familiar words but to decode unfamiliar ones. The CTP Word Analysis test at Level 1 measures a student's ability to recognize and decode words. In addition, the test measures understanding of basic structural elements of the English language, including morphemes and root/base words. The following is a list of the skills measured by the CTP Word Analysis test at Level 1.

### Sight Words

The student will be able to recognize common words that are vital to reading fluency, especially those that do not follow basic rules of sound-letter correspondence.

### Phonemic Analysis

The student will be able to recognize vowel and consonant sounds and blends in varying positions within a word (initial, medial, and final).

### Structural Analysis

The student will be able to:

- Recognize compound words.
- Understand the correct use of contractions and what they mean.
- Choose the root/base word with the appropriate inflectional ending in the context of a sentence.

## MATHEMATICS

The five content strands in the Level 1 Mathematics tests are: 1) Numbers and Operations with Whole Numbers; 2) Geometry and Spatial Sense; 3) Measurement; 4) Data Analysis, Statistics, and Probability; and 5) Patterns, Functions, and Pre-Algebra. Along with subscores in the content areas, students receive subscores in three process areas: Conceptual Understanding, Procedural Knowledge, and Problem Solving. The following is a list of the skills measured by the CTP Mathematics Achievement test at Level 1.

### Number Sense and Operations with Whole Numbers

The student will be able to:

- Use place value, read, write, and compare whole numbers, use models to represent numbers, and use expanded notation.
- Add and subtract whole numbers, multiply single-digit numbers, know the language of basic operations, understand the relationship between addition and multiplication, and estimate sums, differences, products, and quotients.

- Understand the properties of arithmetic operations, including operations with zero, understand even and odd numbers, and multiply by multiples of 10.
- Solve real-life problems involving number operations, including basic money problems.

### Geometry and Spatial Sense

The student will be able to:

- Identify basic geometric figures and describe shapes, including circles, triangles, and rectangles.
- Understand basic properties of figures, including closure, number of sides, vertices, and angles, and characterize lines as intersecting or parallel.
- Identify relationships between figures and images under transformations; identify lines of symmetry and the effects of combining, subdividing, and changing basic shapes; and graph coordinates on a map grid.

### Measurement

The student will be able to:

- Know the approximate sizes of customary and metric units and the relationships between measures within the same system and select appropriate units of measure.
- Work with the basic measure of perimeter and area.
- Solve real-life problems involving coins, elapsed time, calendars, temperature, weight, or distance and read time on a standard clock and degrees on a thermometer.

### Data Analysis, Statistics, and Probability

The student will be able to read and interpret various types of simple graphs, including bar, line, circle, pictorial graphs, and tables and tallies.

### Patterns, Functions, and Pre-Algebra

The student will be able to:

- Recognize a wide variety of patterns and the rules that explain them.
- Select number sentences to represent problem situations.

## AUDITORY COMPREHENSION

The CTP Auditory Comprehension test at Level 2 measures a student's ability to understand and interpret information presented orally. In addition to being able to listen to and follow the directions for taking the test itself, a student must also be able to recognize and understand important words and plot points and to interpret and analyze information presented in a story read aloud. The development of good listening skills parallels and reinforces the development of good reading skills, and the skills tested in the Auditory Comprehension test therefore parallel those tested in the Reading Comprehension test. The following is a list of the skills measured by the CTP Auditory Comprehension test at Level 2.

### Vocabulary in Context

The student will be able to use context clues to determine the meaning of a word or phrase in a text read aloud and choose the correct definition or synonym.

### Explicit Information

The student will be able to identify explicit details from a passage read aloud and provide answers to "who," "what," "where," "when," "why," and "how" questions about the text.

### Inference

The student will be able to:

- Use implicit information from a passage read aloud to make inferences about the motives or behaviors of characters.
- Use implicit information from a passage read aloud to summarize or draw conclusions.

### Analysis

The student will be able to:

- Draw connections between and among various pieces of information in a text read aloud.
- Synthesize explicit and implicit information to make predictions or draw conclusions about a text read aloud.

## READING COMPREHENSION

The CTP Reading Comprehension test at Level 2 measures a student's ability to understand and interpret written text. The NCTE/IRA *Standards for the English Language Arts* emphasizes the importance of being able to use a "wide range of strategies to comprehend, interpret, evaluate, and appreciate text," including "word identification strategies" (31). The CTP Reading Comprehension test requires a student to draw on these strategies to interpret and analyze a range of texts, both fiction and nonfiction. The following is a list of the skills measured by the CTP Reading Comprehension test at Level 2.

### Vocabulary in Context

The student will be able to use context clues to determine the meaning of a word or phrase in a text and choose the correct definition or synonym.

### Explicit Information

The student will be able to:

- Use explicit information to identify the main idea or primary purpose of a text or part of a text.
- Identify explicit details from a passage and provide answers to "who," "what," "where," "when," "why," and "how" questions about the text.

### Inference

The student will be able to:

- Use implicit information from a passage to make inferences about the motives or behaviors of characters.
- Use implicit information from a passage to summarize or draw conclusions.

### Analysis

The student will be able to:

- Draw connections between and among various pieces of information in a text.
- Synthesize explicit and implicit information to make predictions or draw conclusions about a text.

## WORD ANALYSIS

Systematic vocabulary development is essential for reading fluency, and building phonemic awareness — learning the sound structure of language — is important for students in grades 1–3. Students must be able not only to recognize familiar words but to decode unfamiliar ones. The CTP Word Analysis test at Level 2 measures students' ability to recognize and decode words and to choose words appropriate for the context of a sentence or passage. In addition, the test measures students' increasingly sophisticated understanding of basic structural elements of the English language, including morphemes and root/base words and correct plural and adjectival forms. The following is a list of the skills measured by the CTP Word Analysis test at Level 2.

### Sight Words

The student will be able to recognize common words that are vital to reading fluency, especially those that do not follow basic rules of sound-letter correspondence.

### Phonemic Analysis

The student will be able to recognize vowel and consonant sounds and blends in varying positions within a word (initial, medial, and final).

### Structural Analysis

The student will be able to:

- Recognize compound words.
- Understand the correct use of contractions and what they mean.
- Choose the root/base word with the appropriate inflectional ending in the context of a sentence.
- Choose the correct plural form of a word in context.
- Understand the correct use of comparative and superlative adjectives.
- Use context clues to choose the appropriate word to fill in a blank in a sentence.

## WRITING MECHANICS

The development of a foundational understanding of language conventions and mechanics is essential as students move from copying letters and words to writing sentences to composing paragraphs. The NCTE/IRA *Standards for the English Language Arts* indicates that students should be able to “apply knowledge of language structure and language conventions (e.g., spelling and punctuation) . . . to create, critique, and discuss print and non-print texts” (36). The CTP Writing Mechanics test at Level 2 measures a student's growing understanding of English sentence structure and language conventions. The following is a list of the skills measured by the CTP Writing Mechanics test at Level 2.

### Spelling

The student will be able to identify misspellings of commonly used words, including words with affixes and words that display improper pluralization.

### Capitalization

The student will be able to recognize correct and incorrect capitalization. Specific rules tested include:

- Capitalization of proper nouns.
- Capitalization of the first word of a sentence.

### Punctuation

The student will be able to recognize correct and incorrect punctuation. Specific rules tested include:

- Proper punctuation for dialogue and letter writing.
- Correct end punctuation.
- The correct use of the comma.
- The correct use of the apostrophe in contractions and possessives.

### Usage

The student will be able to apply rules of English diction and grammar. Specific rules tested include:

- Correct pronoun use, including pronoun-antecedent agreement.
- Rules of diction within the context of a sentence.
- Correct verb form and tense, including subject-verb agreement.

## MATHEMATICS

The five content strands in the Level 2 Mathematics tests are: 1) Numbers and Operations with Whole Numbers; 2) Geometry and Spatial Sense; 3) Measurement; 4) Data Analysis, Statistics, and Probability; and 5) Patterns, Functions, and Pre-Algebra. The content strands for Level 2 are the same as the Level 1 content strands; however, the questions are appropriately more challenging. Additionally, Level 2 contains a few more questions on Patterns, Functions, and Pre-Algebra than Level 1, and there are topics included in Level 2 that are not included in Level 1. These topics are:

- Understanding the basic concept of chance.
- Understanding the basic concept of an equality relationship.

Along with subscores in the content strands, a student will receive subscores in three process areas: Conceptual Understanding, Procedural Knowledge, and Problem Solving. The following is a list of the skills measured by the CTP Mathematics Achievement test at Level 2.

### Number Sense and Operations with Whole Numbers

The student will be able to:

- Use place value, read, write, and compare whole numbers, use models to represent numbers, and use expanded notation.
- Add and subtract whole numbers, multiply single-digit numbers, know the language of basic operations, understand the relationship between addition and multiplication, and estimate sums, differences, products, and quotients.
- Understand the properties of arithmetic operations, including operations with zero, understand even and odd numbers, and multiply by multiples of 10.
- Solve real-life problems involving number operations, including basic money problems.

### Geometry and Spatial Sense

The student will be able to:

- Identify basic geometric figures and describe shapes, including circles, triangles, and rectangles.
- Understand basic properties of figures, including closure, number of sides, vertices, and angles, and characterize lines as intersecting or parallel.
- Identify relationships between figures and images under transformations; identify lines of symmetry and the effects of combining, subdividing, and changing basic shapes; and graph coordinates on a map grid.

### Measurement

The student will be able to:

- Know the approximate sizes of customary and metric units and the relationships between measures within the same system and select appropriate units of measure.
- Work with the basic measure of perimeter and area.
- Solve real-life problems involving coins, elapsed time, calendars, temperature, weight, or distance, and read time on a standard clock and degrees on a thermometer.

### Data Analysis, Statistics, and Probability

The student will be able to:

- Read and interpret various types of simple graphs, including bar, line, circle, pictorial, table, and tallies.
- Understand the concept of chance.

### Patterns, Functions, and Pre-Algebra

The student will be able to:

- Recognize a wide variety of patterns and the rules that explain them.
- Select number sentences to represent problem situations.
- Understand the concept of equality.

## VERBAL REASONING

The CTP Verbal Reasoning test at Level 3 measures a student's ability to conceptualize relationships among words and concepts and to draw conclusions based on incomplete information. The ability to infer information that is not explicitly stated in a text is an essential aspect of fluency in reading; the CTP Verbal Reasoning test at Level 3 evaluates a student's developing proficiency in this area. The following is a list of the skills measured by the CTP Verbal Reasoning test at Level 3.

### Analogical Reasoning

The student will be able to:

- Recognize the relationship between two words and identify another pair of words with the same relationship.
- Identify the definition that accurately describes the relationship between a pair of words.

### Categorical Reasoning

The student will be able to:

- Recognize which of several elements does or does not fit into a thematically grouped list of words.
- Generalize about a thematically grouped list of words and choose an appropriate heading for the list.

### Logical Reasoning

The student will be able to:

- Solve deductive ordering problems and draw conclusions that are directly deducible from the information provided.
- Solve inductive reasoning problems by reasoning from details or evidence to a generalization or hypothesis that makes sense of the evidence.

## AUDITORY COMPREHENSION

The CTP Auditory Comprehension test at Level 3 measures a student's ability to understand and interpret information presented orally. In addition to being able to listen to and follow the directions for taking the test itself, a student must also be able to recognize and understand important words and plot points and to interpret and analyze information presented in a story read aloud. The development of good listening skills parallels and reinforces the development of good reading skills, and the skills tested in the Auditory Comprehension test therefore parallel those tested in the Reading Comprehension test. The following is a list of the skills measured by the CTP Auditory Comprehension test at Level 3.

### Vocabulary in Context

The student will be able to use context clues to determine the meaning of a word or phrase in a text read aloud and choose the correct definition or synonym.

### Explicit Information

The student will be able to:

- Use explicit information to identify the main idea or primary purpose of a text or part of a text.
- Identify explicit details from a passage and provide answers to "who," "what," "where," "when," "why," and "how" questions about the text.

### Inference

The student will be able to:

- Use implicit information from a passage read aloud to make inferences about the motives or behaviors of characters.
- Use implicit information from a passage read aloud to summarize or draw conclusions.

### Analysis

The student will be able to:

- Draw connections between and among various pieces of information in a text read aloud.
- Synthesize explicit and implicit information to make predictions or draw conclusions about a text read aloud.

## READING COMPREHENSION

The CTP Reading Comprehension test at Level 3 measures a student's ability to understand and interpret written text. The NCTE/IRA *Standards for the English Language Arts* emphasizes the importance of being able to use a "wide range of strategies to comprehend, interpret, evaluate, and appreciate text," including "word identification strategies" (31). The CTP Reading Comprehension test requires a student to draw on these strategies to interpret and analyze a range of texts, both fiction and nonfiction. The following is a list of the skills measured by the CTP Reading Comprehension test at Level 3.

### Vocabulary in Context

The student will be able to use context clues to determine the meaning of a word or phrase in a text and choose the correct definition or synonym.

### Explicit Information

The student will be able to:

- Use explicit information to identify the main idea or primary purpose of a text or part of a text.
- Identify explicit details from a passage and provide answers to "who," "what," "where," "when," "why," and "how" questions about the text.

## READING COMPREHENSION CONTINUED

### Inference

The student will be able to:

- Use implicit information from a passage to summarize or draw conclusions.
- Use implicit information from a passage to make inferences about the motives or behaviors of characters.

### Analysis

The student will be able to:

- Draw connections between and among various pieces of information in a text.
- Synthesize explicit and implicit information to make predictions or draw conclusions about a text.

## WRITING MECHANICS

The development of a foundational understanding of language conventions and mechanics is essential as students move from copying letters and words to writing sentences to composing paragraphs. The NCTE/IRA *Standards for the English Language Arts* indicates that a student should be able to “apply knowledge of language structure and language conventions (e.g., spelling and punctuation) . . . to create, critique, and discuss print and non-print texts” (36). The CTP Writing Mechanics test at Level 3 measures a student’s growing understanding of English sentence structure and language conventions. The following is a list of the skills measured by the CTP Writing Mechanics test at Level 3.

### Spelling

The student will be able to identify misspellings of commonly used words, including words with affixes and words that display improper pluralization.

### Capitalization

The student will be able to recognize correct and incorrect capitalization. Specific rules tested include:

- Capitalization of proper nouns.
- Capitalization of the first word of a sentence.
- Capitalization in titles and forms of address.

### Punctuation

The student will be able to recognize correct and incorrect punctuation. Specific rules tested include:

- The correct use of the comma.
- The correct use of the apostrophe in contractions and possessives.
- Proper punctuation for dialogue and letter writing.
- Correct end punctuation.

### Usage

The student will be able to apply rules of English diction and grammar. Specific rules tested include:

- Correct pronoun use, including pronoun-antecedent agreement.
- Correct verb form and tense, including subject-verb agreement.
- Rules of correct and effective expression at the sentence level, including proper modification.
- Rules of diction within the context of a sentence.
- Rules of sentence boundaries, including avoiding run-ons and fragments.

## WRITING CONCEPTS AND SKILLS

The CTP Writing Concepts and Skills test at Level 3 begins to integrate a student's developing facility with English grammar and usage with a growing understanding of writing and the writing process. As students begin to develop more comprehensive paragraphs and to learn the stages of the writing process, the ability to organize complex information and to recognize the multiple purposes and audiences for writing becomes increasingly important. According to the NCTE/IRA *Standards for the English Language Arts*, it is important that students be able to “employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes” (35). The following is a list of the skills measured by the CTP Writing Concepts and Skills test at Level 3.

### Organization

The student will be able to:

- Recognize thesis statements, topic sentences, and conclusions.
- Recognize effective transitions between ideas, sentences, and paragraphs.
- Effectively and logically sequence information within a paragraph or passage.

### Purpose, Audience, and Focus

The student will be able to:

- Recognize the role of the audience within varying contexts and draw logical conclusions about the intended audience for a given passage.
- Understand how the purpose for and focus of a piece of writing help determine the kind of information included and the appropriate style and tone of the piece.

### Supporting Details

The student will be able to:

- Choose the appropriate main idea or topic sentence for a paragraph.
- Identify effective and relevant details to support a given idea or thesis.

### Style and Craft

The student will be able to:

- Effectively combine two or more sentences into one logical sentence.
- Recognize and identify accurate and appropriate word choices in a piece of writing.
- Recognize and identify well-crafted sentences that exhibit rhetorical precision.

## QUANTITATIVE REASONING

The Quantitative Reasoning test assesses a student's ability to engage, in age-level appropriate ways, in pattern recognition, classification, and reasoning in all content areas, including logic, arithmetic, algebra, geometry, probability, and statistics. The following is a list of the skills measured by the CTP Quantitative Reasoning test at Level 3.

### Comparison

The student will be able to:

- Consider numerical quantities in various forms and compare their sizes.
- Consider the relative measures of geometric shapes.
- Recognize relative sizes of units of measure, including between systems.

### Extensions and Generalizations

The student will be able to:

- Formulate arithmetic conclusions based on observation and mathematical judgment.
- Formulate geometric conclusions based on observation and mathematical judgment.
- Recognize patterns and geometric representation of real-life situations.

### Analysis

The student will be able to:

- Interpret symbolic representation of numerical quantities.
- Interpret charts, graphs, statistical measures, and basic probability.
- Model geometric transformations.

## MATHEMATICS (PART 1 AND 2)

The six content strands in the Level 3 Mathematics test are: 1) Numbers and Operations with Whole Numbers; 2) Numbers and Operations with Fractions and Decimals; 3) Geometry and Spatial Sense; 4) Measurement; 5) Data Analysis, Statistics, and Probability; and 6) Patterns, Functions, and Pre-Algebra. The content strands for Level 3 differ from those for Level 2 in two ways:

- the inclusion of a new fractions and decimals strand
- the inclusion of new topics for Level 3 in the strands shared with Level 2.

Examples of such topics are:

- Using two- and three-dimensional models to represent whole numbers.
- Dividing whole numbers, including understanding the meaning of remainder.
- Understanding the concepts of mode and range.

Along with subscores in the content strands, a student will receive subscores in three process areas: Conceptual Understanding, Procedural Knowledge, and Problem Solving. The following is a list of the skills measured by the CTP Mathematics test at Level 3.

### Number Sense and Operations with Whole Numbers

The student will be able to:

- Use place value; read, write, and compare whole numbers; use models to represent, order, and compare whole numbers; and understand expanded notation.
- Perform arithmetic operations on whole numbers, know the language of basic operations, understand the relationship between addition and multiplication, and estimate sums, difference, products, and quotients.
- Understand the properties of arithmetic operations, including operations with zero, understand even and odd numbers, and multiply by multiples of 10.
- Solve real-life problems involving number operations.

### Number Sense and Operations with Fractions and Decimals

The student will be able to:

- Use place value in relation to decimal numbers, recognize relative magnitude of fractions and decimals, and use models to represent order of fractions and decimals.
- Add and subtract simple fractions and find half of an even number.
- Solve real-life problems involving fractions and decimals, including money problems.

### Geometry and Spatial Sense

The student will be able to:

- Use basic geometric language to describe and name shapes, including circles, triangles, and rectangles.
- Understand basic properties of figures, including number of sides, vertices, and angles, and characterize lines as intersecting or parallel.
- Identify relationships between figures and images under transformation and identify lines of symmetry and the effects of combining, subdividing, and changing basic shapes.

### Measurement

The student will be able to:

- Understand approximate sizes in customary and metric units and the relationships between measures within the same system.
- Use appropriate units of measurement and appropriate tools for a given measurement and understand basic measure of perimeter and area.
- Solve real-life problems involving coins, elapsed time, calendars, temperature, weight, or distance.

### Data Analysis, Statistics, and Probability

The student will be able to:

- Read and interpret various types of simple graphs, including bar, line, circle, pictorial, tables, and tallies.
- Understand the concepts of mean, mode, and range.
- Understand the concept of chance.

### Patterns, Functions, and Pre-Algebra

The student will be able to:

- Recognize a wide variety of patterns and the rules that explain them.
- Solve simple open sentences involving operations on whole numbers and select number sentences to represent problem situations.

## VERBAL REASONING

The CTP Verbal Reasoning test at Level 4 measures a student's ability to conceptualize relationships among words and concepts and to draw conclusions based on incomplete information. The ability to infer information that is not explicitly stated in a text is an essential aspect of fluency in reading; the CTP Verbal Reasoning test at Level 4 evaluates a student's developing proficiency in this area. The following is a list of the skills measured by the CTP Verbal Reasoning test at Level 4.

### Analogical Reasoning

The student will be able to:

- Recognize the relationship between two words and identify another pair of words with the same relationship.
- Identify the definition that accurately describes the relationship between a pair of words.

### Categorical Reasoning

The student will be able to:

- Recognize which of several elements does or does not fit into a thematically grouped list of words.
- Generalize about a thematically grouped list of words and choose an appropriate heading for the list.

### Logical Reasoning

The student will be able to:

- Solve deductive ordering problems and draw conclusions that are directly deducible from the information provided.
- Solve inductive reasoning problems by reasoning from details or evidence to a generalization or hypothesis that makes sense of the evidence.

## VOCABULARY

Reading fluency depends on both an extensive learned vocabulary and the ability to decode unfamiliar words. The CTP Vocabulary test at Level 4 measures a student's expanding vocabulary and developing ability to distinguish more subtle differences among related words. At Level 4, vocabulary words are tested exclusively in the context of a sentence or passage. The following is a list of the skills measured by the CTP Vocabulary test at Level 4.

### Word Meaning

The student will be able to:

- Understand the meaning of a word in the context of a sentence and identify the correct definition.
- Understand the meaning of a word in the context of a sentence and identify a synonym for that word.
- Understand the meaning of a word in the context of a sentence and identify an antonym of that word.

### Precision

The student will be able to distinguish among subtle shades of meaning in choosing the appropriate word or words to fill in the blank(s) in a sentence.

### Application

The student will be able to:

- Understand the meaning of a word in the context of a passage and identify the correct definition.
- Understand the meaning of a word in the context of a passage and identify a synonym for that word.
- Understand the meaning of a word in the context of a passage and identify an antonym of that word.

## READING COMPREHENSION

The CTP Reading Comprehension test at Level 4 measures a student's ability to understand and interpret written text. The NCTE/IRA *Standards for the English Language Arts* emphasizes the importance of being able to use a "wide range of strategies to comprehend, interpret, evaluate, and appreciate text" (31). The CTP Reading Comprehension test requires a student to draw on these strategies to interpret and analyze a range of texts, both fiction and nonfiction. The following is a list of the skills measured by the CTP Reading Comprehension test at Level 4.

### Explicit Information

The student will be able to:

- Use explicit information to identify the main idea or primary purpose of a text or part of a text.
- Identify explicit details from a passage and provide answers to "who," "what," "where," "when," "why," and "how" questions about the text.

### Inference

The student will be able to:

- Use implicit information from a passage to make inferences about the motives or behaviors of characters.
- Use implicit information from a passage to answer specific questions about a text.

### Analysis

The student will be able to:

- Determine whether information included in a passage consists of fact or opinion.
- Use explicit and implicit information to determine the author's likely intent for writing a passage or for including certain information in a passage.
- Synthesize explicit and implicit information to make predictions, draw conclusions, or formulate hypotheses about a text.

## WRITING MECHANICS

The development of a foundational understanding of language conventions and mechanics is essential as students move from copying letters and words to writing sentences to composing paragraphs. The NCTE/IRA *Standards for the English Language Arts* indicates that students should be able to “apply knowledge of language structure and language conventions (e.g., spelling and punctuation) . . . to create, critique, and discuss print and non-print texts” (36). The CTP Writing Mechanics test at Level 4 measures a student’s growing understanding of English sentence structure and language conventions. The following is a list of the skills measured by the CTP Writing Mechanics test at Level 4.

### Spelling

The student will be able to identify misspellings of commonly used words, including words with affixes and words that display improper pluralization.

### Capitalization

The student will be able to recognize correct and incorrect capitalization. Specific rules tested include:

- Capitalization of proper nouns.
- Capitalization of the first word of a sentence.
- Capitalization in titles and forms of address.

### Punctuation

The student will be able to recognize correct and incorrect punctuation. Specific rules tested include:

- The correct use of the comma.
- The correct use of the apostrophe in contractions and possessives.
- Proper punctuation for dialogue and letter writing.
- Correct end punctuation.

### Usage

The student will be able to apply rules of English diction and grammar. Specific rules tested include:

- Correct pronoun use, including pronoun-antecedent agreement.
- Correct verb form and tense, including subject-verb agreement and parallelism.
- Rules of correct and effective expression at the sentence level, including proper modification.
- Rules of diction within the context of a sentence.
- Rules of sentence boundaries, including avoiding run-ons and fragments.

## WRITING CONCEPTS AND SKILLS

The CTP Writing Concepts and Skills test at Level 4 integrates a student’s developing facility with English grammar and usage with a growing understanding of writing and the writing process. As students begin to develop more comprehensive paragraphs and to learn the stages of the writing process, the ability to organize complex information and to recognize the multiple purposes and audiences for writing becomes increasingly important. According to the NCTE/IRA *Standards for the English Language Arts*, it is important that students be able to “employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes” (35). The following is a list of the skills measured by the CTP Writing Concepts and Skills test at Level 4.

### Organization

The student will be able to:

- Recognize thesis statements, topic sentences, and conclusions.
- Recognize effective transitions between ideas, sentences, and paragraphs.
- Effectively and logically sequence information within a paragraph or passage.

### Purpose, Audience, and Focus

The student will be able to:

- Recognize the role of the audience within varying contexts and draw logical conclusions about the intended audience for a given passage.
- Understand how the purpose for and focus of a piece of writing help determine the kind of information included and the appropriate style and tone of the piece.

### Supporting Details

The student will be able to:

- Identify effective and relevant details to support a given idea or thesis.
- Choose the appropriate main idea or topic sentence for a paragraph.

### Style and Craft

The student will be able to:

- Effectively combine two or more sentences into one logical sentence.
- Recognize and identify accurate and appropriate word choices in a piece of writing.
- Recognize and identify well-crafted sentences that exhibit rhetorical precision.

## QUANTITATIVE REASONING

The Quantitative Reasoning test assesses a student's ability to engage, in age-level appropriate ways, in pattern recognition, classification, and reasoning in all content areas, including logic, arithmetic, algebra, geometry, probability, and statistics. The following is a list of the skills measured by the CTP Quantitative Reasoning test at Level 4.

### Comparison

The student will be able to:

- Consider numerical quantities in various forms and compare their sizes.
- Consider the relative measures of geometric shapes.
- Recognize relative sizes of units of measure, including between systems.

### Extensions and Generalizations

The student will be able to:

- Formulate arithmetic conclusions based on observation and mathematical judgment.
- Formulate geometric conclusions based on observation and mathematical judgment.
- Recognize patterns and geometric representation of real-life situations.

### Analysis

The student will be able to:

- Interpret symbolic representation of numerical quantities.
- Interpret charts, graphs, statistical measures, and probability.
- Model geometric transformations.

## MATHEMATICS (PART 1 AND 2)

The six content strands in the Level 4 Mathematics test are:

1) Numbers and Operations with Whole Numbers; 2) Numbers and Operations with Fractions and Decimals; 3) Geometry and Spatial Sense; 4) Measurement; 5) Data Analysis, Statistics, and Probability; and 6) Patterns, Functions, and Pre-Algebra. Some topics included in Level 4 but not in Level 3 are:

- Using powers of ten.
- Understanding squares of numbers.
- Understanding properties such as the commutative property, associative property, and the use of parentheses.
- Comparing fractions with unlike denominators.
- Modeling simple percents such as 25%, 50%, and 75%.
- Adding and subtracting fractions with like denominators or simple fractions with unlike denominators (e.g., halves and fourths).
- Naming and describing simple three-dimensional figures.

- Naming the types of angles.
- Understanding a wider range of units of measurement, such as some units of capacity and mass.
- Finding the mean, median, and mode of a set of data.
- Using simple sample spaces to find probabilities.
- Using basic counting techniques.
- Understanding the concept of a variable.

Along with subscores in the content strands, a student will receive subscores in three process areas: Conceptual Understanding, Procedural Knowledge, and Problem Solving. The following is a list of the skills measured by the CTP Mathematics test at Level 4.

### Number Sense and Operations with Whole Numbers

The student will be able to:

- Use place value; read, write, and compare whole numbers; use models to represent, order, and compare whole numbers.
- Understand expanded notation, powers of ten, and squares of numbers.
- Perform arithmetic operations on whole numbers, know the language of basic operations, understand the relationship between addition and multiplication, and estimate sums, difference, products, and quotients.
- Understand the properties of arithmetic operations, including operations with zero, understand even and odd numbers, and multiply by multiples of 10.
- Solve real-life problems involving number operations and rate problems.

### Number Sense and Operations with Fractions and Decimals

The student will be able to:

- Use place value in relation to decimal numbers, recognize relative magnitude of fractions and decimals, use models to represent order of fractions and decimals, and estimate fractions and decimals with pictures.
- Add and subtract decimals, simple fractions, and mixed numbers.
- Multiply and divide amounts of money by a single digit and find half of an even number and a quarter of a multiple of 4.
- Solve real-life problems involving fractions and decimals.

**MATHEMATICS** CONTINUED**Geometry and Spatial Sense**

The student will be able to:

- Use basic geometric language to describe and name shapes, and identify segments, rays, lines, and angles.
- Understand basic properties of figures, including number of sides, vertices, angles, edges, and faces and characterize lines as intersecting, parallel, or perpendicular and angles as right, acute, or obtuse.
- Identify relationships between figures and images under transformation and identify lines of symmetry and the effects of combining, subdividing, and changing basic shapes.

**Measurement**

The student will be able to:

- Understand approximate sizes in customary and metric units and the relationships between measures within the same system.
- Use appropriate units of measurement and appropriate tools for a given measurement.
- Understand the basic measure of perimeter and area.
- Solve real-life problems involving elapsed time, calendars, temperature, capacity, weight, distance, or map scale.

**Data Analysis, Statistics, and Probability**

The student will be able to:

- Read and interpret various types of simple graphs, including bar, line, circle, pictorial, tables, and tallies.
- Understand and compute mean, median, mode, and range.
- Understand the concept of chance and basic counting techniques used to describe an event.

**Patterns, Functions, and Pre-Algebra**

The student will be able to:

- Recognize a wide variety of patterns and the rules that explain them and understand graphs of coordinates.
- Solve simple open sentences, including inequalities and select number sentences to represent problem situations.
- Understand the basic concept of an equality relationship and the concept of a variable.

## VERBAL REASONING

The CTP Verbal Reasoning test at Level 5 measures a student's ability to conceptualize relationships among words and concepts and to draw conclusions based on incomplete information. The ability to infer information that is not explicitly stated in a text is an essential aspect of fluency in reading; the CTP Verbal Reasoning test at Level 5 evaluates a student's developing proficiency in this area. The following is a list of the skills measured by the CTP Verbal Reasoning test at Level 5.

### Analogical Reasoning

The student will be able to:

- Recognize the relationship between two words and identify another pair of words with the same relationship.
- Identify the definition that accurately describes the relationship between a pair of words.

### Categorical Reasoning

The student will be able to:

- Recognize which of several elements does or does not fit into a thematically grouped list of words.
- Generalize about a thematically grouped list of words and choose an appropriate heading for the list.

### Logical Reasoning

The student will be able to:

- Solve deductive ordering problems and draw conclusions that are directly deducible from the information provided.
- Solve inductive reasoning problems by reasoning from details or evidence to a generalization or hypothesis that makes sense of the evidence.

## VOCABULARY

Reading fluency depends on both an extensive learned vocabulary and the ability to decode unfamiliar words. The CTP Vocabulary test at Level 5 measures a student's expanding vocabulary and developing ability to distinguish more subtle differences among related words. At Level 5, vocabulary words are tested exclusively in the context of a sentence or passage. The following is a list of the skills measured by the CTP Vocabulary test at Level 5.

### Word Meaning

The student will be able to:

- Understand the meaning of a word in the context of a sentence and identify the correct definition.
- Understand the meaning of a word in the context of a sentence and identify a synonym for that word.
- Understand the meaning of a word in the context of a sentence and identify an antonym of that word.

### Precision

The student will be able to distinguish among subtle shades of meaning in choosing the appropriate word or words to fill in the blank(s) in a sentence.

### Application

The student will be able to:

- Understand the meaning of a word in the context of a passage and identify a synonym for that word.
- Understand the meaning of a word in the context of a passage and identify an antonym of that word.

## READING COMPREHENSION

The CTP Reading Comprehension test at Level 5 measures a student's ability to understand and interpret written text. The NCTE/IRA *Standards for the English Language Arts* emphasizes the importance of being able to use a "wide range of strategies to comprehend, interpret, evaluate, and appreciate text" (31). The CTP Reading Comprehension test requires a student to draw on these strategies to interpret and analyze a range of texts, both fiction and nonfiction. The following is a list of the skills measured by the CTP Reading Comprehension test at Level 5.

### Explicit Information

The student will be able to:

- Use explicit information to identify the main idea or primary purpose of a text or part of a text.
- Identify explicit details from a passage and provide answers to "who," "what," "where," "when," "why," and "how" questions about the text.
- Understand connections between and among explicit pieces of information from a passage.
- Put pieces of information from the passage in the correct chronological order.

### Inference

The student will be able to:

- Use implicit information from a passage to make inferences about the motives or behaviors of characters.
- Use implicit information from a passage to answer specific questions about a text.

## READING COMPREHENSION CONTINUED

### Analysis

The student will be able to:

- Determine whether information included in a passage consists of fact or opinion.
- Use explicit and implicit information to determine the author's likely intent for writing a passage or for including certain information in a passage.
- Recognize cause-and-effect relationships among elements in a text.
- Categorize and combine pieces of information in a text.
- Synthesize explicit and implicit information to make predictions, draw conclusions, or formulate hypotheses about a text.

## WRITING MECHANICS

The development of a foundational understanding of language conventions and mechanics is essential as students begin to write more complex texts. The NCTE/IRA *Standards for the English Language Arts* indicates that students should be able to “apply knowledge of language structure and language conventions (e.g., spelling and punctuation) . . . to create, critique, and discuss print and non-print texts” (36). The CTP Writing Mechanics test at Level 5 measures a student's growing understanding of English sentence structure and language conventions. The following is a list of the skills measured by the CTP Writing Mechanics test at Level 5.

### Spelling

The student will be able to identify misspellings of commonly used words, including words with affixes and words that display improper pluralization.

### Capitalization

The student will be able to recognize correct and incorrect capitalization. Specific rules tested include:

- Capitalization of proper nouns.
- Capitalization of the first word of a sentence.
- Capitalization in titles and forms of address.

### Punctuation

The student will be able to recognize correct and incorrect punctuation. Specific rules tested include:

- The correct use of the comma.
- The correct use of the apostrophe in contractions and possessives.
- Proper punctuation for dialogue and letter writing.
- Correct end punctuation.

### Usage

The student will be able to apply rules of English diction and grammar. Specific rules tested include:

- Correct pronoun use, including pronoun-antecedent agreement.
- Correct verb form and tense, including subject-verb agreement and parallelism.
- Rules of correct and effective expression at the sentence level, including proper modification.
- Rules of diction within the context of a sentence.
- Rules of sentence boundaries, including avoiding run-ons and fragments.

## WRITING CONCEPTS AND SKILLS

The CTP Writing Concepts and Skills test at Level 5 integrates a student's developing facility with English grammar and usage with a growing understanding of writing and the writing process. As students continue to develop their writing skills and to learn the stages of the writing process, the ability to organize complex information and to recognize the multiple purposes and audiences for writing becomes increasingly important. According to the NCTE/IRA *Standards for the English Language Arts*, it is important that students be able to “employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes” (35). The following is a list of the skills measured by the CTP Writing Concepts and Skills test at Level 5.

### Organization

The student will be able to:

- Recognize thesis statements, topic sentences, and conclusions.
- Recognize effective transitions between ideas, sentences, and paragraphs.
- Effectively and logically sequence information within a paragraph or passage.

### Purpose, Audience, and Focus

The student will be able to:

- Recognize the role of the audience within varying contexts and draw logical conclusions about the intended audience for a given passage.
- Understand how the purpose for and focus of a piece of writing help determine the kind of information included and the appropriate style and tone of the piece.

### Supporting Details

The student will be able to:

- Identify effective and relevant details to support a given idea or thesis.
- Choose the appropriate main idea or topic sentence for a paragraph.

### Style and Craft

The student will be able to:

- Recognize and identify accurate and appropriate word choices in a piece of writing.
- Recognize and identify well-crafted sentences that exhibit rhetorical precision.

## QUANTITATIVE REASONING

The Quantitative Reasoning test assesses a student's ability to engage (in age-level appropriate ways) in pattern recognition, classification, and reasoning in all content areas, including logic, arithmetic, algebra, geometry, probability, and statistics. The following is a list of the skills measured by the CTP Quantitative Reasoning test at Level 5.

### Comparison

The student will be able to:

- Consider numerical quantities in various forms and compare their sizes.
- Consider the relative measures of geometric shapes.
- Recognize relative sizes of units of measure, including between systems.

### Extensions and Generalizations

The student will be able to:

- Formulate arithmetic conclusions based on observation and mathematical judgment.
- Formulate geometric conclusions based on observation and mathematical judgment.
- Recognize patterns and geometric representation of real-life situations.

### Analysis

The student will be able to:

- Interpret symbolic representation of numerical quantities.
- Evaluate statistical arguments.
- Model geometric transformations.

## MATHEMATICS (PART 1 AND 2)

The seven content strands in the Level 5 Mathematics test are:

1) Numbers and Number Relationships; 2) Number Systems and Number Theory; 3) Geometry and Spatial Sense; 4) Measurement; 5) Statistics; 6) Probability; and 7) Pre-Algebra. The Number Sense and Operations strands from Levels 1 through 4 are replaced at Level 5 with two new number strands, recognizing the more advanced work at this level in arithmetic and properties of numbers. The Data strand from Levels 1 through 4 has been divided at Level 5 into two strands, reflecting the increased emphasis on statistics and probability. The Patterns strand from Levels 1 through 4 has been replaced with Pre-Algebra, recognizing the move at this level toward more formal algebra. Some topics included in Level 5 but not in Level 4 are:

- Using expanded notation and exponential forms of numbers.
- Working with percents.
- Understanding order of operations.
- Understanding prime numbers and composite numbers.

**MATHEMATICS** CONTINUED

- Understanding least common multiple and greatest common factor.
- Adding and subtracting fractions with unlike denominators.
- Understanding congruence and similarity.
- Identifying lines, line segments, rays, and angles.
- Using coordinate geometry.
- Finding the range of a set of data.
- Using Venn diagrams and tree diagrams.
- Finding probabilities of related events.
- Formulating equations from word sentences.
- Applying the concepts of variable, expression, and equation to solve problems.

Along with subscores in the content strands, a student will receive subscores in three process areas: Conceptual Understanding, Procedural Knowledge, and Problem Solving. The following is a list of the skills measured by the CTP 4 Mathematics test at Level 5.

**Numbers and Number Relationships**

The student will be able to:

- Understand equivalent forms of fractions, decimals, and percents and use number sense for numbers in these forms.
- Understand multiple representation of numbers, including expanded notation and exponential forms.
- Apply numbers using multiple representations and understand plotting fractions on a real number line.

**Number Systems and Number Theory**

The student will be able to:

- Understand place value with whole numbers and decimals and recognize ordering of fractions and decimals.
- Understand multiples, factors, primes, and composites.
- Understand order of operations with whole numbers.
- Apply operations with fractions and decimals and number theory concepts in everyday mathematical situations.

**Geometry and Spatial Sense**

The student will be able to:

- Use basic geometric language to identify, describe, and name shapes.
- Understand basic characteristics and properties of figures, including applications in coordinate geometry.
- Apply geometric properties and relationships, including congruence of figures, lines of symmetry, sum of angle measures in a triangle, images, under transformation, and two- and three-dimensional shape changes.

**Measurement**

The student will be able to:

- Understand systems of measurement and the relationships among units of the same system.
- Use units appropriately and estimate measures using scale.
- Understand the measures of figures, including perimeter, circumference, surface area, volume, and angles (figures include rectangular solids).
- Understand the application of formulas in deriving measures and solve simple rate problems.

**Statistics**

The student will be able to:

- Read and interpret various types of simple graphs, including bar, single and double line, circle, pictorial, and tables.
- Understand and compute mean, median, mode, and range.

**Probability**

The student will be able to:

- Determine probabilities, solve problems of chance using ratios and related probabilities, and make predictions based on mathematical probabilities.
- Understand counting techniques, including the use of probability to determine amounts.

**Pre-Algebra**

The student will be able to:

- Represent patterns and mathematical situations involving tables, graphs, and equations.
- Understand the use of variables, balancing equations, and completing simple mathematical sentences to find an unknown.
- Apply variables, expressions, and equations to solve real-world problems and formulate equations from word sentences.

## VERBAL REASONING

The CTP Verbal Reasoning test at Level 6 measures a student's ability to conceptualize relationships among words and concepts and to draw conclusions based on incomplete information. The ability to infer information that is not explicitly stated in a text is an essential aspect of fluency in reading; the CTP Verbal Reasoning test at Level 6 evaluates a student's developing proficiency in this area. The following is a list of the skills measured by the CTP Verbal Reasoning test at Level 6.

### Analogical Reasoning

The student will be able to:

- Recognize the relationship between two words and identify another pair of words with the same relationship.
- Identify the definition that accurately describes the relationship between a pair of words.

### Categorical Reasoning

The student will be able to:

- Recognize which of several elements does or does not fit into a thematically grouped list of words.
- Generalize about a thematically grouped list of words and choose an appropriate heading for the list.

### Logical Reasoning

The student will be able to:

- Solve deductive ordering problems and draw conclusions that are directly deducible from the information provided.
- Solve inductive reasoning problems by reasoning from details or evidence to a generalization or hypothesis that makes sense of the evidence.

## VOCABULARY

Reading fluency depends on both an extensive learned vocabulary and the ability to decode unfamiliar words. The CTP Vocabulary test at Level 6 measures a student's expanding vocabulary and developing ability to distinguish more subtle differences among related words. At Level 6, vocabulary words are tested exclusively in the context of a sentence or passage. The following is a list of the skills measured by the CTP Vocabulary test at Level 6.

### Word Meaning

The student will be able to:

- Understand the meaning of a word in the context of a sentence and identify the correct definition.
- Understand the meaning of a word in the context of a sentence and identify a synonym for that word.
- Understand the meaning of a word in the context of a sentence and identify an antonym of that word.

### Precision

The student will be able to distinguish among subtle shades of meaning in choosing the appropriate word or words to fill in the blank(s) in a sentence.

### Application

The student will be able to:

- Understand the meaning of a word in the context of a passage and identify the correct definition of that word.
- Understand the meaning of a word in the context of a passage and identify a synonym for that word.
- Understand the meaning of a word in the context of a passage and identify an antonym of that word.

## READING COMPREHENSION

The CTP Reading Comprehension test at Level 6 measures a student's ability to understand and interpret written text. The NCTE/IRA *Standards for the English Language Arts* emphasizes the importance of being able to use a "wide range of strategies to comprehend, interpret, evaluate, and appreciate text" (31). The CTP Reading Comprehension test requires a student to draw on these strategies to interpret and analyze a range of texts, both fiction and nonfiction. The following is a list of the skills measured by the CTP Reading Comprehension test at Level 6.

### Explicit Information

The student will be able to:

- Use explicit information to identify the main idea or primary purpose of a text or part of a text.
- Identify explicit details from a passage and provide answers to "who," "what," "where," "when," "why," and "how" questions about the text.
- Understand connections between and among explicit pieces of information from a passage.
- Put pieces of information from the passage in the correct chronological order.

### Inference

The student will be able to:

- Use implicit information from a passage to make inferences about the motives or behaviors of characters.
- Use implicit information from a passage to answer specific questions about a text.

## READING COMPREHENSION CONTINUED

### Analysis

The student will be able to:

- Determine whether information included in a passage consists of fact or opinion.
- Use explicit and implicit information to determine the author's likely intent for writing a passage or for including certain information in a passage.
- Compare and contrast elements in a text.
- Categorize and combine pieces of information in a text.
- Synthesize explicit and implicit information to make predictions, draw conclusions, or formulate hypotheses about a text.

## WRITING MECHANICS

The development of a foundational understanding of language conventions and mechanics is essential as students begin to write more complex texts. The NCTE/IRA *Standards for the English Language Arts* indicates that students should be able to “apply knowledge of language structure and language conventions (e.g., spelling and punctuation) . . . to create, critique, and discuss print and non-print texts” (36). The CTP Writing Mechanics test at Level 6 measures a student's growing understanding of English sentence structure and language conventions. The following is a list of the skills measured by the CTP Writing Mechanics test at Level 6.

### Spelling

The student will be able to identify misspellings of commonly used words, including words with affixes and words that display improper pluralization.

### Capitalization

The student will be able to recognize correct and incorrect capitalization. Specific rules tested include:

- Capitalization of proper nouns.
- Capitalization of the first word of a sentence.
- Capitalization in titles and forms of address.

### Punctuation

The student will be able to recognize correct and incorrect punctuation. Specific rules tested include:

- The correct use of the comma.
- The correct use of the apostrophe in contractions and possessives.
- Proper punctuation for dialogue and letter writing.
- Correct end punctuation.

### Usage

The student will be able to apply rules of English diction and grammar. Specific rules tested include:

- Correct pronoun use, including pronoun-antecedent agreement.
- Correct verb form and tense, including subject-verb agreement and parallelism.
- Rules of correct and effective expression at the sentence level, including proper modification.
- Rules of diction within the context of a sentence.
- Rules of sentence boundaries, including avoiding run-ons and fragments.

## WRITING CONCEPTS AND SKILLS

The CTP Writing Concepts and Skills test at Level 6 integrates a student's developing facility with English grammar and usage with a growing understanding of writing and the writing process. As students continue to develop their writing skills and to learn the stages of the writing process, the ability to organize complex information and to recognize the multiple purposes and audiences for writing becomes increasingly important. According to the NCTE/IRA *Standards for the English Language Arts*, it is important that students be able to “employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes” (35). The following is a list of the skills measured by the CTP Writing Concepts and Skills test at Level 6.

### Organization

The student will be able to:

- Recognize thesis statements, topic sentences, and conclusions.
- Recognize effective transitions between ideas, sentences, and paragraphs.
- Effectively and logically sequence information within a paragraph or passage.

### Purpose, Audience, and Focus

The student will be able to:

- Recognize the role of the audience within varying contexts and draw logical conclusions about the intended audience for a given passage.
- Understand how the purpose for and focus of a piece of writing help determine the kind of information included and the appropriate style and tone of the piece.

### Supporting Details

The student will be able to:

- Identify effective and relevant details to support a given idea or thesis.
- Choose the appropriate main idea or topic sentence for a paragraph.

### Style and Craft

The student will be able to:

- Recognize and identify accurate and appropriate word choices in a piece of writing.
- Recognize and identify well-crafted sentences that exhibit rhetorical precision.

## QUANTITATIVE REASONING

The Quantitative Reasoning test assesses a student's ability to engage, in age-level appropriate ways, in pattern recognition, classification, and reasoning in all content areas including logic, arithmetic, algebra, geometry, probability, and statistics. The following is a list of the skills measured by the CTP Quantitative Reasoning test at Level 6.

### Comparison

The student will be able to:

- Consider numerical quantities in various forms and compare their sizes.
- Consider the relative measures of geometric shapes.
- Recognize relative sizes of units of measure, including between systems.

### Extensions and Generalizations

The student will be able to:

- Formulate arithmetic conclusions based on observation and mathematical judgment.
- Formulate geometric conclusions based on observation and mathematical judgment.
- Recognize patterns and geometric representation of real-life situations.

### Analysis

The student will be able to:

- Interpret symbolic representation of numerical quantities.
- Evaluate statistical arguments.
- Model geometric transformations.

## MATHEMATICS (PART 1 AND 2)

The seven content strands in the Level 6 Mathematics test are: 1) Numbers and Number Relationships; 2) Number Systems and Number Theory; 3) Geometry and Spatial Sense; 4) Measurement; 5) Statistics; 6) Probability; and 7) Pre-Algebra. Some topics included in Level 6 but not in Level 5 are:

- Using scientific notation to represent numbers.
- Understanding similarity of geometric figures.
- Using the triangle inequality.
- Understanding the volume and surface area of triangular prisms.
- Understanding the volume of cylinders.

Along with subscores in the content strands, a student will receive subscores in three process areas: Conceptual Understanding, Procedural Knowledge, and Problem Solving. The following is a list of the skills measured by the CTP Mathematics test at Level 6.

### Numbers and Number Relationships

The student will be able to:

- Understand equivalent forms of fractions, decimals, and percents and use number sense for numbers in these forms.
- Understand multiple representation of numbers, including expanded notation, exponential forms, and scientific notation.
- Apply numbers using multiple representations and understand plotting fractions on a real number line.

### Number Systems and Number Theory

The student will be able to:

- Understand place value with whole numbers and decimals and recognize ordering of fractions and decimals.
- Understand multiples, factors, primes, and composites.
- Understand order of operations with whole numbers.
- Apply operations with fractions and decimals and number theory concepts in everyday mathematical situations.

### Geometry and Spatial Sense

The student will be able to:

- Use basic geometric language to describe and name shapes.
- Understand basic properties of figures, including applications in coordinate geometry.
- Apply geometric properties and relationships, including congruence of figures, lines of symmetry, sum of angle measures in a triangle, triangle inequality, images under transformation, and two- and three- dimensional shape changes.

### Measurement

The student will be able to:

- Understand systems of measurement and the relationships among units of the same system.
- Use units appropriately and estimate measures using scale.
- Understand the measures of figures, including perimeter, circumference, surface area, volume, and angles (figures include rectangular and triangular solids).
- Understand the application of formulas in deriving measures and solve simple rate problems.

### Statistics

The student will be able to:

- Read and interpret various types of simple graphs, including bar, single and double line, circle, pictorial, and tables.
- Understand and compute mean, median, mode, and range.

### Probability

The student will be able to:

- Determine probabilities, solve problems of chance using ratios and related probabilities, and make predictions based on mathematical probabilities.
- Understand counting techniques, including the use of probability to determine amounts.

### Pre-Algebra

The student will be able to:

- Represent patterns and mathematical situations involving tables, graphs, and equations.
- Understand the use of variables, balancing equations, and completing simple mathematical sentences to find an unknown.
- Apply variables, expressions, and equations to solve real-world problems and formulate equations from word sentences.

## VERBAL REASONING

The CTP Verbal Reasoning test at Level 7 measures a student's ability to conceptualize relationships among words and concepts and to draw conclusions based on incomplete information. The ability to infer information that is not explicitly stated in a text is an essential aspect of fluency in reading; the CTP Verbal Reasoning test at Level 7 evaluates a student's developing proficiency in this area. The following is a list of the skills measured by the CTP Verbal Reasoning test at Level 7.

### Analogical Reasoning

The student will be able to:

- Recognize the relationship between two words and identify another pair of words with the same relationship.
- Identify the definition that accurately describes the relationship between a pair of words.

### Categorical Reasoning

The student will be able to:

- Recognize which of several elements does or does not fit into a thematically grouped list of words.
- Generalize about a thematically grouped list of words and choose an appropriate heading for the list.

### Logical Reasoning

The student will be able to:

- Solve deductive ordering problems and draw conclusions that are directly deducible from the information provided.
- Solve inductive reasoning problems by reasoning from details or evidence to a generalization or hypothesis that makes sense of the evidence.

## VOCABULARY

Reading fluency depends on both an extensive learned vocabulary and the ability to decode unfamiliar words. The CTP Vocabulary test at Level 7 measures a student's expanding vocabulary and developing ability to distinguish more subtle differences among related words. At Level 7, vocabulary words are tested both in and out of context. The following is a list of the skills measured by the CTP Vocabulary test at Level 7.

### Word Meaning

The student will be able to:

- Identify a synonym for a word, either in the context of a sentence or alone.
- Identify an antonym of a word, either in the context of a sentence or alone.

### Precision

The student will be able to distinguish among subtle shades of meaning in choosing the appropriate word or words to fill in the blank(s) in a sentence.

### Application

The student will be able to:

- Understand the meaning of a word in the context of a passage and identify the correct definition of that word.
- Understand the meaning of a word in the context of a passage and identify a synonym for that word.
- Understand the meaning of a word in the context of a passage and identify an antonym of that word.

## READING COMPREHENSION

The CTP Reading Comprehension test at Level 7 measures a student's ability to understand and interpret written text. The NCTE/IRA *Standards for the English Language Arts* emphasizes the importance of being able to use a "wide range of strategies to comprehend, interpret, evaluate, and appreciate text" (31). The CTP Reading Comprehension test requires a student to draw on these strategies to interpret and analyze a range of texts, both fiction and nonfiction. The following is a list of the skills measured by the CTP Reading Comprehension test at Level 7.

### Explicit Information

The student will be able to:

- Use explicit information to identify the main idea or primary purpose of a text or part of a text.
- Identify explicit details from a passage and provide answers to "who," "what," "where," "when," "why," and "how" questions about the text.
- Understand connections between and among explicit pieces of information from a passage.
- Put pieces of information from the passage in the correct chronological order.

### Inference

The student will be able to:

- Use implicit information from a passage to make inferences about the motives or behaviors of characters.
- Use implicit information from a passage to answer specific questions about a text.

### Analysis

The student will be able to:

- Determine whether information included in a passage consists of fact or opinion.
- Use explicit and implicit information to determine the author's likely intent for writing a passage or for including certain information in a passage.
- Compare and contrast elements in a text.
- Categorize and combine pieces of information in a text.
- Synthesize explicit and implicit information to make predictions, draw conclusions, or formulate hypotheses about a text.

## WRITING MECHANICS

The development of an increasingly sophisticated understanding of language conventions and mechanics is essential as students continue to write more and more complex texts. The NCTE/IRA *Standards for the English Language Arts* indicates that students should be able to “apply knowledge of language structure and language conventions (e.g., spelling and punctuation) . . . to create, critique, and discuss print and non-print texts” (36). The CTP Writing Mechanics test at Level 7 measures a student’s growing facility with English sentence structure and language conventions. The following is a list of the skills measured by the CTP Writing Mechanics test at Level 7.

### Spelling, Capitalization, and Punctuation

The student will be able to recognize spelling, capitalization, and punctuation errors. Specific elements tested include:

- Spelling of commonly used words, including words with affixes and words that display improper pluralization.
- Capitalization of proper nouns.
- Capitalization in titles and forms of address.
- The correct use of the comma, semicolon, and colon.
- The correct use of the apostrophe in contractions and possessives.
- Proper punctuation for dialogue and letter writing.
- Correct end punctuation.

### Usage

The student will be able to apply rules of English diction and grammar. Specific rules tested include:

- Correct pronoun use, including pronoun-antecedent agreement.
- Correct verb form and tense, including subject-verb agreement and parallelism.
- Rules of correct and effective expression at the sentence level, including proper modification.
- Rules of diction within the context of a sentence.

### Sentence Construction

The student will be able to apply rules regarding sentence boundaries, including recognizing run-on sentences and sentence fragments.

## WRITING CONCEPTS AND SKILLS

The CTP Writing Concepts and Skills test at Level 7 integrates a student’s developing facility with English grammar and usage with a growing understanding of writing and the writing process. As students continue to develop their writing skills and to learn the stages of the writing process, the ability to organize complex information and to recognize the multiple purposes and audiences for writing becomes increasingly important. According to the NCTE/IRA *Standards for the English Language Arts*, it is important that students be able to “employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes” (35). The following is a list of the skills measured by the CTP Writing Concepts and Skills test at Level 7.

### Organization

The student will be able to:

- Recognize thesis statements, topic sentences, and conclusions.
- Recognize effective transitions between ideas, sentences, and paragraphs.
- Effectively and logically sequence information within a paragraph or passage.

### Purpose, Audience, and Focus

The student will be able to:

- Recognize the role of the audience within varying contexts and draw logical conclusions about the intended audience for a given passage.
- Understand how the purpose for and focus of a piece of writing help determine the kind of information included and the appropriate style and tone of the piece.

### Supporting Details

The student will be able to:

- Identify effective and relevant details to support a given idea or thesis.
- Choose the appropriate main idea or topic sentence for a paragraph.

### Style and Craft

The student will be able to:

- Recognize and identify accurate and appropriate word choices in a piece of writing.
- Effectively combine two or more sentences into one logical sentence.
- Recognize and identify well-crafted sentences that exhibit rhetorical precision.

## QUANTITATIVE REASONING

The Quantitative Reasoning test assesses a student's ability to engage, in age-level appropriate ways, in pattern recognition, classification, and reasoning in all content areas including logic, arithmetic, algebra, geometry, probability, and statistics. The following is a list of the skills measured by the CTP Quantitative Reasoning test at Level 7.

### Comparison

The student will be able to:

- Consider numerical quantities in various forms and compare their sizes.
- Consider the relative measures of geometric shapes.

### Extensions and Generalizations

The student will be able to:

- Formulate arithmetic conclusions based on observation and mathematical judgment.
- Formulate geometric conclusions based on observation and mathematical judgment.
- Recognize patterns and geometric representation of real-life situations.

### Analysis

The student will be able to:

- Interpret algebraic representations.
- Evaluate statistical arguments, including counting principles and basic interpretation of probabilities.
- Model geometric transformations.

## MATHEMATICS (PART 1 AND 2)

The content strands in the Level 7 Mathematics test are: 1) Numbers and Number Relationships; 2) Number Systems and Number Theory; 3) Geometry; 4) Measurement; 5) Probability; 6) Statistics; and 7) Pre-Algebra. Some topics included in Level 7 but not in Level 6 are:

- Representing numbers in one- and two-dimensional graphs.
- Estimating square roots.
- Applying theories of whole numbers, and signed numbers in context.
- Using the Pythagorean Theorem.
- Computing perimeter and area of irregular figures.
- Solving linear equations and inequalities.

Along with subscores in the content strands, a student will receive subscores in three process areas: Conceptual Understanding, Procedural Knowledge, and Problem Solving. The following is a list of the skills measured by the CTP Mathematics test at Level 7.

### Numbers and Number Relationships

The student will be able to:

- Understand equivalent forms of fractions, decimals, and percents; use estimates of these numbers and square roots; and use multiple representation of numbers, including exponential and scientific notations.
- Recognize the form of a number appropriate for use in a given situation and apply ratio, percent, and proportion in a variety of situations.
- Represent number relationships in one- and two-dimensional graphs.

### Number Systems and Number Theory

The student will be able to:

- Recognize the need for numbers beyond whole numbers, including signed numbers, decimals, and fractions.
- Identify perfect squares, factors, or multiples of integers, including least common multiple and greatest common divisor.
- Apply operations with fractions, decimals, and signed numbers and number theory concepts in everyday mathematical situations.
- Understand order of arithmetic operations.

## MATHEMATICS CONTINUED

### Geometry and Spatial Sense

The student will be able to:

- Use basic geometric language to classify and characterize properties of geometric figures.
- Apply geometric properties and relationships to two- and three- dimensional figures, including the Pythagorean Theorem, congruence and similarity of figures, lines of symmetry, sum of angle measures in a triangle, triangle inequality, and transformation in the coordinate plane.

### Measurement

The student will be able to:

- Apply concepts of measure, including perimeter, circumference, surface area, volume, weight, and angle measure (figures include irregular shapes).
- Use units appropriately and estimate measures using scale.
- Develop formulas to solve problems of measure and solve simple rate problems.

### Probability

The student will be able to:

- Determine probabilities, solve problems of chance using ratios and related probabilities, and make predictions based on mathematical probabilities.
- Understand counting techniques, including the use of permutations and combinations.

### Statistics

The student will be able to:

- Generate, organize, evaluate, and interpret various data representations.
- Understand and compute mean, median, mode, and range.

### Pre-Algebra

The student will be able to:

- Represent patterns and mathematical situations involving tables, graphs, verbal rules, and equations.
- Solve simple linear equations and inequalities.
- Apply variables, expressions, and equations to solve real-world problems and mathematical problems.

## ALGEBRA I

The Algebra I test is an end-of-course test and should be administered at the completion of a first-year course in Algebra. The four content strands in the Algebra I test are 1) Expressions, Statements, and Matrices; 2) Equations and Inequalities; 3) Tables, Graphs, and Algebraic Geometry; and 4) Situations Involving Variable Quantities. The following is a list of the skills measured by the CTP Algebra I test at Level 7.

### Expressions, Statements, and Matrices

The student will be able to:

- Simplify algebraic expressions in various forms by applying arithmetic properties (forms include rational and exponential expressions).
- Understand equivalent algebraic expressions, including expressions that are obtained by factoring.
- Evaluate algebraic expressions for given values.

### Equations and Inequalities

The student will be able to:

- Solve linear equations/inequalities, simple systems of linear equations, and literal equations for one variable.
- Identify arithmetic properties.
- Apply algebraic equations to solve real-life problems and mathematical situations.
- Solve simple quadratic equations.
- Understand relationships of coefficients for equivalent quadratic expressions.

### Tables, Graphs, and Algebraic Geometry

The student will be able to:

- Understand the  $xy$ -coordinate system and graphs of points, linear equations, and linear inequalities.
- Identify linear equations and their characteristics, including slope and  $x$ - and  $y$ -intercepts.
- Recognize relationships between parallel and perpendicular lines.

### Situations Involving Variable Quantities

The student will be able to translate real-life and mathematical situations into algebraic expressions or equations.

## VERBAL REASONING

The CTP Verbal Reasoning test at Level 8 measures a student's ability to conceptualize relationships among words and concepts and to draw conclusions based on incomplete information. The ability to infer information that is not explicitly stated in a text is an essential aspect of fluency in reading; the CTP Verbal Reasoning test at Level 8 evaluates a student's developing proficiency in this area. The following is a list of the skills measured by the CTP Verbal Reasoning test at Level 8.

### Analogical Reasoning

The student will be able to:

- Recognize the relationship between two words and identify another pair of words with the same relationship.
- Identify the definition that accurately describes the relationship between a pair of words.

### Categorical Reasoning

The student will be able to:

- Recognize which of several elements does or does not fit into a thematically grouped list of words.
- Generalize about a thematically grouped list of words and choose an appropriate heading for the list.

### Logical Reasoning

The student will be able to:

- Solve deductive ordering problems and draw conclusions that are directly deducible from the information provided.
- Solve inductive reasoning problems by reasoning from details or evidence to a generalization or hypothesis that makes sense of the evidence.

## VOCABULARY

Reading fluency depends on both an extensive learned vocabulary and the ability to decode unfamiliar words. The CTP Vocabulary test at Level 8 measures a student's expanding vocabulary and developing ability to distinguish more subtle differences among related words. At Level 8, vocabulary words are tested both in and out of context. The following is a list of the skills measured by the CTP Vocabulary test at Level 8.

### Word Meaning

The student will be able to identify synonyms and antonyms of words.

### Precision

The student will be able to distinguish among subtle shades of meaning in choosing the appropriate word or words to fill in the blank(s) in a sentence.

### Application

The student will be able to:

- Identify the correct definition of a word in the context of a passage.
- Identify a synonym or antonym of a word in the context of a passage.

## READING COMPREHENSION

The CTP Reading Comprehension test at Level 8 measures a student's ability to understand and interpret written text. The NCTE/IRA *Standards for the English Language Arts* emphasizes the importance of being able to use a "wide range of strategies to comprehend, interpret, evaluate, and appreciate text" (31). The CTP Reading Comprehension test requires a student to draw on these strategies to interpret and analyze a range of texts, both fiction and nonfiction. The following is a list of the skills measured by the CTP Reading Comprehension test at Level 8.

### Explicit Information

The student will be able to:

- Use explicit information to identify the main idea or primary purpose of a text or part of a text.
- Identify explicit details from a passage and provide answers to "who," "what," "where," "when," "why," and "how" questions about the text.
- Understand connections between and among explicit pieces of information from a passage.
- Put pieces of information from the passage in the correct chronological order.

### Inference

The student will be able to:

- Use implicit information from a passage to make inferences about the motives or behaviors of characters.
- Use implicit information from a passage to answer specific questions about a text.

### Analysis

The student will be able to:

- Determine whether information included in a passage consists of fact or opinion.
- Use explicit and implicit information to determine the author's likely intent for writing a passage or for including certain information in a passage.
- Synthesize explicit and implicit information to make predictions, draw conclusions, or formulate hypotheses about a text.

## WRITING MECHANICS

The development of an increasingly sophisticated understanding of language conventions and mechanics is essential as students continue to write more and more complex texts. The NCTE/IRA *Standards for the English Language Arts* indicates that students should be able to “apply knowledge of language structure and language conventions (e.g., spelling and punctuation) . . . to create, critique, and discuss print and non-print texts” (36). The CTP Writing Mechanics test at Level 8 measures a student’s growing facility with English sentence structure and language conventions. The following is a list of the skills measured by the CTP Writing Mechanics test at Level 8.

### Spelling, Capitalization, and Punctuation

The student will be able to recognize spelling, capitalization, and punctuation errors. Specific elements tested include:

- Spelling of commonly used words, including words with affixes and words that display improper pluralization.
- Capitalization of proper nouns and in titles and forms of address.
- The correct use of the comma, semicolon, and colon.
- The correct use of the apostrophe in contractions and possessives.
- Proper punctuation for dialogue and quotations.
- Correct end punctuation.

### Usage

The student will be able to apply rules of English diction and grammar. Specific rules tested include:

- Correct pronoun use, including pronoun-antecedent agreement.
- Correct verb form and tense, including subject-verb agreement and parallelism.
- Rules of correct and effective expression at the sentence level, including proper modification.
- Rules of diction within the context of a sentence.

### Sentence Construction

The student will be able to apply rules regarding sentence boundaries, including recognizing run-on sentences and sentence fragments.

## WRITING CONCEPTS AND SKILLS

The CTP Writing Concepts and Skills test at Level 8 integrates a student’s developing facility with English grammar and usage with an increasingly sophisticated understanding of the writing process. As students continue to develop their writing skills, the ability to organize complex information and to recognize the multiple purposes and audiences for writing becomes increasingly important. According to the NCTE/IRA *Standards for the English Language Arts*, it is important that students be able to “employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes” (35). The following is a list of the skills measured by the CTP Writing Concepts and Skills test at Level 8.

### Organization

The student will be able to:

- Recognize thesis statements, topic sentences, and conclusions.
- Recognize effective transitions between ideas, sentences, and paragraphs.
- Effectively and logically sequence information.

### Purpose, Audience, and Focus

The student will be able to:

- Recognize the role of the audience within varying contexts and draw logical conclusions about the intended audience for a given passage.
- Understand how the purpose for and focus of a piece of writing help determine the kind of information included and the appropriate style and tone of the piece.

### Supporting Details

The student will be able to:

- Identify effective and relevant details to support a given idea or thesis.
- Choose the appropriate main idea or topic sentence for a paragraph.

### Style and Craft

The student will be able to:

- Recognize and identify accurate and appropriate word choices in a piece of writing.
- Effectively combine two or more sentences into one logical sentence.
- Recognize and identify well-crafted sentences that exhibit rhetorical precision.

## QUANTITATIVE REASONING

The Quantitative Reasoning test assesses a student's ability to engage (in age-level appropriate ways) in pattern recognition, classification, and reasoning in all content areas, including logic, arithmetic, algebra, geometry, probability, and statistics. The following is a list of the skills measured by the CTP Quantitative Reasoning test at Level 8.

### Comparison

The student will be able to:

- Consider numerical quantities in various forms and compare their sizes.
- Consider the relative measures of geometric shapes.
- Recognize relative sizes of units of measure, including between systems.

### Extensions and Generalizations

The student will be able to:

- Formulate arithmetic conclusions based on observation and mathematical judgment.
- Formulate geometric conclusions based on observation and mathematical judgment.
- Recognize patterns, logic problems, and geometric representation of real-life situations.

### Analysis

The student will be able to:

- Interpret algebraic representations.
- Evaluate statistical arguments, including counting principles and basic interpretation of probabilities.

## MATHEMATICS (PART 1 AND 2)

The seven content strands in the Level 8 Mathematics test are: 1) Numbers and Number Relationships; 2) Number Systems and Number Theory; 3) Geometry; 4) Measurement; 5) Probability; 6) Statistics; and 7) Pre-Algebra. At Level 8 there is an increased emphasis on questions in Pre-Algebra. Additionally, some topics included in Level 8 but not in Level 7 are:

- Using properties of three-dimensional figures.
- Computing volume and surface area of irregular three-dimensional figures.
- Graphing lines in the coordinate plane.
- Simplifying simple algebraic expressions.

Along with subscores in the content strands, a student will receive subscores in three process areas: Conceptual Understanding, Procedural Knowledge, and Problem Solving. The following is a list of the skills measured by the CTP Mathematics test at Level 7.

### Numbers and Number Relationships

The student will be able to:

- Understand equivalent forms of fractions, decimals, and percents; use estimates of these numbers and square roots; and use multiple representation of numbers, including exponential and scientific notations.
- Recognize the form of a number appropriate for use in a given situation and apply ratio, percent, and proportion in a variety of situations.
- Represent number relationships in one- and two-dimensional graphs.

### Number Systems and Number Theory

The student will be able to:

- Recognize the need for numbers beyond whole numbers, including signed numbers, decimals, and fractions.
- Identify perfect squares, factors, or multiples of integers, including least common multiple and greatest common divisor.
- Apply operations with fractions, decimals, and signed numbers and number theory concepts in everyday mathematical situations.
- Understand order of arithmetic operations.

### Geometry and Spatial Sense

The student will be able to:

- Use basic geometric language to classify and characterize properties of geometric figures including three-dimensional figures.

**MATHEMATICS** CONTINUED

- Apply geometric properties and relationships to two- and three-dimensional figures including the Pythagorean Theorem, congruence and similarity of figures, lines of symmetry, sum of angle measures in a polygon, triangle inequality, and transformation in the coordinate plane.

**Measurement**

The student will be able to:

- Apply concepts of measure, including perimeter, circumference, surface area, volume, weight, and angle measure (figures include irregular shapes).
- Use units appropriately and estimate measures using scale.
- Develop formulas to solve problems of measure and solve simple rate problems.

**Probability**

The student will be able to:

- Determine probabilities, solve problems of chance using ratios and related probabilities and make predictions based on mathematical probabilities.
- Understand counting techniques including use of permutations and combinations.

**Statistics**

The student will be able to:

- Generate, organize, evaluate, and interpret various data representations.
- Understand and compute mean, median, mode, and range.

**Pre-Algebra**

The student will be able to:

- Represent patterns and mathematical situations involving tables, graphs, verbal rules, and equations.
- Solve simple linear equations and inequalities, simplify algebraic expression and graph linear equations and inequalities on a number line or in the coordinate plane.
- Apply variables, expressions and equations to solve real-world problems and mathematical problems including simple non-linear equations.

**ALGEBRA I**

The Algebra I test is an end-of-course test and should be administered at the completion of a first-year course in Algebra. The four content strands in the Algebra I test are 1) Expressions, Statements, and Matrices; 2) Equations and Inequalities; 3) Tables, Graphs, and Algebraic Geometry; and 4) Situations Involving Variable Quantities. The following is a list of the skills measured by the CTP Algebra I test at Level 8.

**Expressions, Statements, and Matrices**

The student will be able to:

- Simplify algebraic expressions in various forms by applying arithmetic properties (forms include rational and exponential expressions).
- Understand equivalent algebraic expressions, including expressions that are obtained by factoring.
- Evaluate algebraic expressions for given values.

**Equations and Inequalities**

The student will be able to:

- Solve linear equations/inequalities, simple systems of linear equations, and literal equations for one variable.
- Identify arithmetic properties.
- Apply algebraic equations to solve real-life problems and mathematical situations.
- Solve simple quadratic equations.
- Understand relationships of coefficients for equivalent quadratic expressions.

**Tables, Graphs, and Algebraic Geometry**

The student will be able to:

- Understand the  $xy$ -coordinate system and graphs of points, linear equations, and linear inequalities.
- Identify linear equations and their characteristics, including slope and  $x$ - and  $y$ -intercepts.
- Recognize relationships between parallel and perpendicular lines.

**Situations Involving Variable Quantities**

The student will be able to translate real-life and mathematical situations into algebraic expressions or equations.

## VERBAL REASONING

The CTP Verbal Reasoning test at Level 9 measures a student's ability to conceptualize relationships among words and concepts and to draw conclusions based on incomplete information. The ability to infer information that is not explicitly stated in a text is an essential aspect of fluency in reading; the CTP Verbal Reasoning test at Level 9 evaluates a student's developing proficiency in this area. The following is a list of the skills measured by the CTP Verbal Reasoning test at Level 9.

### Analogical Reasoning

The student will be able to:

- Recognize the relationship between two words and identify another pair of words with the same relationship.
- Identify the definition that accurately describes the relationship between a pair of words.

### Categorical Reasoning

The student will be able to:

- Recognize which of several elements does or does not fit into a thematically grouped list of words.
- Generalize about a thematically grouped list of words and choose an appropriate heading for the list.

### Logical Reasoning

The student will be able to:

- Solve deductive ordering problems and draw conclusions that are directly deducible from the information provided.
- Solve inductive reasoning problems by reasoning from details or evidence to a generalization or hypothesis that makes sense of the evidence.

## VOCABULARY

Reading fluency depends on both an extensive learned vocabulary and the ability to decode unfamiliar words. The CTP Vocabulary test at Level 9 measures a student's expanding vocabulary and developing ability to distinguish more subtle differences among related words. At Level 9, vocabulary words are tested both in and out of context. The following is a list of the skills measured by the CTP Vocabulary test at Level 9.

### Word Meaning

The student will be able to identify synonyms and antonyms of words.

### Precision

The student will be able to distinguish among subtle shades of meaning in choosing the appropriate word or words to fill in the blank(s) in a sentence.

### Application

The student will be able to:

- Understand the meaning of a word in the context of a passage and identify the correct definition of that word.
- Understand the meaning of a word in the context of a passage and identify a synonym for that word.
- Understand the meaning of a word in the context of a passage and identify an antonym of that word.

## READING COMPREHENSION

The CTP Reading Comprehension test at Level 9 measures a student's ability to understand and interpret written text. The NCTE/IRA *Standards for the English Language Arts* emphasizes the importance of being able to use a "wide range of strategies to comprehend, interpret, evaluate, and appreciate text" (31). The CTP Reading Comprehension test requires a student to draw on these strategies to interpret and analyze a range of texts, both fiction and nonfiction. The following is a list of the skills measured by the CTP Reading Comprehension test at Level 9.

### Explicit Information

The student will be able to:

- Use explicit information to identify the main idea or primary purpose of a text or part of a text.
- Identify explicit details from a passage and provide answers to "who," "what," "where," "when," "why," and "how" questions about the text.
- Understand connections between and among explicit pieces of information from a passage.

### Inference

The student will be able to:

- Use implicit information from a passage to make inferences about the motives or behaviors of characters.
- Use implicit information from a passage to answer specific questions about a text.

### Analysis

The student will be able to:

- Determine whether information included in a passage consists of fact or opinion.
- Use explicit and implicit information to determine the author's likely intent for writing a passage or for including certain information in a passage.
- Compare and contrast elements in a text.
- Categorize and combine pieces of information in a text.
- Synthesize explicit and implicit information to make predictions, draw conclusions, or formulate hypotheses about a text.
- Identify the style, tone, or theme of a text.

## WRITING MECHANICS

The development of an increasingly sophisticated understanding of language conventions and mechanics is essential as students continue to write more and more complex texts. The NCTE/IRA *Standards for the English Language Arts* indicates that students should be able to “apply knowledge of language structure and language conventions (e.g., spelling and punctuation) ... to create, critique, and discuss print and non-print texts” (36). The CTP Writing Mechanics test at Level 9 measures a student’s growing facility with English sentence structure and language conventions. The following is a list of the skills measured by the CTP Writing Mechanics test at Level 9.

### Spelling, Capitalization, and Punctuation

The student will be able to recognize spelling, capitalization, and punctuation errors. Specific elements tested include:

- Spelling of commonly used words.
- Capitalization of proper nouns.
- Capitalization in titles and forms of address.
- The correct use of the comma, semicolon, and colon.
- The correct use of the apostrophe in contractions and possessives.
- Proper punctuation for dialogue and quotations.
- Correct end punctuation.

### Usage

The student will be able to apply rules of English diction and grammar. Specific rules tested include:

- Correct pronoun use, including pronoun-antecedent agreement.
- Correct verb form and tense, including subject-verb agreement and parallelism.
- Rules of correct and effective expression at the sentence level, including proper modification.
- Rules of diction within the context of a sentence.
- Rules regarding sentence boundaries, including avoiding run-ons and fragments and recognizing sentence types.

## WRITING CONCEPTS AND SKILLS

The CTP Writing Concepts and Skills test at Level 9 integrates a student’s developing facility with English grammar and usage with an increasingly sophisticated understanding of the writing process. As students continue to develop their writing skills, the ability to organize complex information and to recognize the multiple purposes and audiences for writing becomes increasingly important. According to the NCTE/IRA *Standards for the English Language Arts*, it is important that students be able to “employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes” (35). The following is a list of the skills measured by the CTP Writing Concepts and Skills test at Level 9.

### Organization

The student will be able to:

- Recognize thesis statements, topic sentences, and conclusions.
- Recognize effective transitions between ideas, sentences, and paragraphs.
- Recognize effective and logical organization and organizational strategies.

### Purpose, Audience, and Focus

The student will be able to:

- Recognize the role of the audience within varying contexts and draw logical conclusions about the intended audience for a given passage.
- Understand how the purpose for and focus of a piece of writing help determine the kind of information included and the appropriate style and tone of the piece.

### Supporting Details

The student will be able to:

- Draw conclusions based on supporting details in a passage.
- Determine the stated or implied purpose of supporting details within the context of a passage.
- Make judgments about the relative importance of supporting details to the passage as a whole.

### Style and Craft

The student will be able to:

- Identify rhetorical features that contribute to the overall precision and style of a piece of writing.
- Identify the author’s tone or voice in a piece of writing.

## QUANTITATIVE REASONING

The Quantitative Reasoning test assesses a student's ability to engage (in age-level appropriate ways) in pattern recognition, classification, and reasoning in all content areas, including logic, arithmetic, algebra, geometry, probability, and statistics. The following is a list of the skills measured by the CTP Quantitative Reasoning test at Level 9.

### Comparison

The student will be able to:

- Consider numerical quantities in various forms and compare their sizes.
- Consider the relative measures of geometric shapes.

### Extensions and Generalizations

The student will be able to:

- Formulate arithmetic conclusions based on observation and mathematical judgment.
- Formulate geometric conclusions based on observation and mathematical judgment.
- Recognize patterns, logic problems, and geometric representation of real-life situations.

### Analysis

The student will be able to:

- Interpret algebraic representations, including those in real-life situations.
- Interpret geometric representations, including applying properties in coordinate geometry.
- Evaluate statistical arguments, including counting principles, measures of central tendency, and interpretation of probabilities.

## MATHEMATICS (PART 1 AND 2)

The four content strands in the Level 9 Mathematics test are: 1) Numbers and Number Relationships; 2) Geometry and Spatial Sense; 3) Data Analysis, Probability, and Statistics; and 4) Algebra. Level 9 is the first level that has an Algebra content strand, and the number of questions in Geometry at this level is significantly greater than the number at any prior level. Additionally, topics included in Level 9 but not in Level 8 are:

- Applying the different forms of real numbers, including radicals, in a variety of situations.
- Performing operations with different forms of real numbers.
- Understanding properties of quadrilaterals, triangles, and circles and applying basic theorems related to them.
- Solving a literal equation for a variable.
- Applying variables, expressions, and equations to solve problems.
- Understanding the concepts of slope and  $x$ - and  $y$ -intercepts, and applying these concepts to finding the equation of a line, making predictions, and to solving rate problems.

Along with subscores in the content strands, a student will receive subscores in three process areas: Conceptual Understanding, Procedural Knowledge, and Problem Solving. The following is a list of the skills measured by the CTP Mathematics test at Level 9.

### Numbers and Number Relationships

The student will be able to:

- Understand different forms of real numbers and the relationships between them including fractions, decimals, percents, and exponential and scientific notation.
- Understand properties of operations and perform operations with different forms of real numbers.
- Apply different forms of real numbers in a variety of situations (forms include radicals).
- Apply theories of whole numbers in a variety of situations.

### Geometry and Spatial Sense

The student will be able to:

- Use basic geometric language to classify and characterize properties of geometric figures including quadrilaterals, triangles, circles, and three-dimensional figures.
- Apply geometric properties and relationships to two- and three-dimensional figures, including the Pythagorean Theorem, sum of angle measures in a polygon, and triangle inequality; develop formulas to solve geometric problems; and use number line and coordinate geometry.

**MATHEMATICS** CONTINUED

- Apply concepts of measure, including perimeter, circumference, surface area, volume, weight, angle measure, distance, and slope as they relate to parallel or perpendicular lines.
- Apply concepts of congruence, similarity, and simple transformation.

**Data Analysis, Statistics, and Probability**

The student will be able to:

- Generate, organize, evaluate, and interpret various data representations, including graphs, charts, and histograms.
- Understand counting techniques for solving problems, including the use of permutations and combinations; understand and compute mean, median, mode, and range; and make conjectures and inferences from data provided.
- Determine probabilities, solve problems of chance using ratios and related probabilities, and make predictions based on mathematical probabilities.

**Algebra**

The student will be able to:

- Represent patterns and mathematical situations using tables, graphs, verbal rules, and equations.
- Understand properties of operations, including commutative and associative, and simplify algebraic expressions.
- Solve linear equations and inequalities in one variable and solve literal equations for a variable.
- Apply variables, expressions, and equations to solve real-world problems and mathematical problems including nonlinear equations.
- Understand slope and  $x$ - and  $y$ -intercepts and apply these concepts to find an equation of a line, make predictions, and solve rate problems.

**ALGEBRA I**

The Algebra I test is an end-of-course test and should be administered at the completion of a first-year course in Algebra. The four content strands in the Algebra I test are: 1) Expressions, Statements, and Matrices; 2) Equations and Inequalities; 3) Tables, Graphs, and Algebraic Geometry; and 4) Situations Involving Variable Quantities. The following is a list of the skills measured by the CTP Algebra I test at Level 9.

**Expressions, Statements, and Matrices**

The student will be able to:

- Simplify algebraic expressions in various forms by applying arithmetic properties (forms include rational and exponential expressions).
- Understand equivalent algebraic expressions, including expressions that are obtained by factoring.
- Evaluate algebraic expressions for given values.

**Equations and Inequalities**

The student will be able to:

- Solve linear equations/inequalities, simple systems of linear equations, and literal equations for one variable.
- Identify arithmetic properties.
- Apply algebraic equations to solve real-life problems and mathematical situations.
- Solve simple quadratic equations.
- Understand relationships of coefficients for equivalent quadratic expressions.

**Tables, Graphs, and Algebraic Geometry**

The student will be able to:

- Understand the  $xy$ -coordinate system and graphs of points, linear equations, and linear inequalities.
- Identify linear equations and their characteristics, including slope and  $x$ - and  $y$ -intercepts.
- Recognize relationships between parallel and perpendicular lines.

**Situations Involving Variable Quantities**

The student will be able to translate real-life and mathematical situations into algebraic expressions or equations.

## VERBAL REASONING

The CTP Verbal Reasoning test at Level 10 measures a student's ability to conceptualize relationships among words and concepts and to draw conclusions based on incomplete information. The ability to infer information that is not explicitly stated in a text is an essential aspect of fluency in reading; the CTP Verbal Reasoning test at Level 10 evaluates a student's developing proficiency in this area. The following is a list of the skills measured by the CTP Verbal Reasoning test at Level 10.

### Analogical Reasoning

The student will be able to:

- Recognize the relationship between two words and identify another pair of words with the same relationship.
- Identify the definition that accurately describes the relationship between a pair of words.

### Categorical Reasoning

The student will be able to:

- Recognize which of several elements does or does not fit into a thematically grouped list of words.
- Generalize about a thematically grouped list of words and choose an appropriate heading for the list.

### Logical Reasoning

The student will be able to:

- Solve deductive ordering problems and draw conclusions that are directly deducible from the information provided.
- Solve inductive reasoning problems by reasoning from details or evidence to a generalization or hypothesis that makes sense of the evidence.

## VOCABULARY

Reading fluency depends on both an extensive learned vocabulary and the ability to decode unfamiliar words. The CTP Vocabulary test at Level 10 measures a student's expanding vocabulary and developing ability to distinguish more subtle differences among related words. At Level 10, vocabulary words are tested both in and out of context. The following is a list of the skills measured by the CTP Vocabulary test at Level 10.

### Word Meaning

The student will be able to identify synonyms and antonyms of words.

### Precision

The student will be able to distinguish among subtle shades of meaning in choosing the appropriate word or words to fill in the blank(s) in a sentence.

### Application

The student will be able to:

- Identify the correct definition of a word in the context of a passage.
- Identify a synonym or antonym of a word in the context of a passage.

## READING COMPREHENSION

The CTP Reading Comprehension test at Level 10 measures a student's ability to understand and interpret written text. The NCTE/IRA *Standards for the English Language Arts* emphasizes the importance of being able to use a "wide range of strategies to comprehend, interpret, evaluate, and appreciate text" (31). The CTP Reading Comprehension test requires a student to draw on these strategies to interpret and analyze a range of texts, both fiction and nonfiction. The following is a list of the skills measured by the CTP Reading Comprehension test at Level 10.

### Explicit Information

The student will be able to:

- Use explicit information to identify the main idea or primary purpose of a text or part of a text.
- Identify explicit details from a passage and provide answers to "who," "what," "where," "when," "why," and "how" questions about the text.
- Understand connections between and among explicit pieces of information from a passage.
- Put pieces of information from the passage in correct chronological order.

### Inference

The student will be able to:

- Use implicit information from a passage to make inferences about the motives or behaviors of characters.
- Use implicit information from a passage to answer specific questions about a text.

### Analysis

The student will be able to:

- Determine whether information included in a passage consists of fact or opinion.
- Use explicit and implicit information to determine the author's likely intent for writing a passage or for including certain information in a passage.
- Compare and contrast elements in a text.
- Categorize and combine pieces of information in a text.
- Synthesize explicit and implicit information to make predictions, draw conclusions, or formulate hypotheses about a text.
- Identify the style, tone, or theme of a text.

## WRITING MECHANICS

The development of an increasingly sophisticated understanding of language conventions and mechanics is essential as students continue to write more and more complex texts. The NCTE/IRA *Standards for the English Language Arts* indicates that students should be able to “apply knowledge of language structure and language conventions (e.g., spelling and punctuation) . . . to create, critique, and discuss print and non-print texts” (36). The CTP Writing Mechanics test at Level 10 measures a student’s growing facility with English sentence structure and language conventions. The following is a list of the skills measured by the CTP Writing Mechanics test at Level 10.

### Spelling, Capitalization, and Punctuation

The student will be able to recognize spelling, capitalization, and punctuation errors. Specific elements tested include:

- Spelling of commonly used words, including words with affixes and words that display improper pluralization.
- Capitalization of proper nouns.
- Capitalization in titles and forms of address.
- The correct use of the comma, semicolon, and colon.
- The correct use of the apostrophe in contractions and possessives.
- Proper punctuation for dialogue and quotations.
- Correct end punctuation.

### Usage

The student will be able to apply rules of English diction and grammar. Specific rules tested include:

- Correct pronoun use, including pronoun-antecedent agreement.
- Correct verb form and tense, including subject-verb agreement and parallelism.
- Rules of correct and effective expression at the sentence level, including proper modification.
- Rules of diction within the context of a sentence.
- Rules regarding sentence boundaries, including avoiding run-ons and fragments and recognizing sentence types.

## WRITING CONCEPTS AND SKILLS

The CTP Writing Concepts and Skills test at Level 10 integrates a student’s developing facility with English grammar and usage with an increasingly sophisticated understanding of the writing process. As students continue to develop their writing skills, the ability to organize complex information and to recognize the multiple purposes and audiences for writing becomes increasingly important. According to the NCTE/IRA *Standards for the English Language Arts*, it is important that students be able to “employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes” (35). The following is a list of the skills measured by the CTP Writing Concepts and Skills test at Level 10.

### Organization

The student will be able to:

- Recognize thesis statements, topic sentences, and conclusions.
- Recognize effective transitions between ideas, sentences, and paragraphs.
- Recognize effective and logical organization in a piece of writing.
- Understand and recognize various organizational strategies.

### Purpose, Audience, and Focus

The student will be able to:

- Recognize the role of the audience within varying contexts and draw logical conclusions about the intended audience for a given passage.
- Understand how the purpose for and focus of a piece of writing help determine the kind of information included and the appropriate style and tone of the piece.

### Supporting Details

The student will be able to:

- Draw conclusions based on supporting details in a passage.
- Determine the stated or implied purpose of supporting details within the context of a passage.
- Make judgments about the relative importance of supporting details to the passage as a whole.
- Recognize effective and relevant details to support points made in a piece of writing.

### Style and Craft

The student will be able to:

- Identify rhetorical features that contribute to the overall precision and style of a piece of writing.
- Identify the author’s tone or voice in a piece of writing.

## QUANTITATIVE REASONING

The Quantitative Reasoning test assesses a student's ability to engage (in age-level appropriate ways) in pattern recognition, classification, and reasoning in all content areas, including logic, arithmetic, algebra, geometry, probability, and statistics. The following is a list of the skills measured by the CTP Quantitative Reasoning test at Level 10.

### Comparison

The student will be able to:

- Consider numerical quantities in various forms and compare their sizes.
- Consider the relative measures of geometric shapes.

### Extensions and Generalizations

The student will be able to:

- Formulate arithmetic conclusions based on observation and mathematical judgment.
- Formulate geometric conclusions based on observation and mathematical judgment.
- Recognize patterns, logic problems, and geometric representation of real-life situations.

### Analysis

The student will be able to:

- Interpret algebraic representations, including those in real-life situations.
- Interpret geometric representations, including applying properties in coordinate geometry.
- Evaluate statistical arguments, including counting principles, measures of central tendency, and interpretation of probabilities.

## MATHEMATICS (PART 1 AND 2)

The five content strands in the Level 10 Mathematics test are: 1) Numbers and Number Relationships; 2) Geometry and Spatial Sense; 3) Data Analysis, Probability, and Statistics; 4) Algebra; and 5) Functions. This is the first level that specifically includes a content strand in functions. Additionally, topics included in Level 10 but not in Level 9 are:

- Understanding real and complex numbers.
- Performing operations with complex numbers.
- Understanding the application of mutually exclusive and independent events in probabilities.
- Solving and graphing second-degree equations and inequalities.
- Solving and graphing linear inequalities and solving linear programming problems.

- Understanding matrices and performing operations with matrices.
- Understanding conic sections and their relationships, with an emphasis on circles and parabolas.
- Understanding the properties and relationships of rational exponents.
- Understanding systems of equations and/or inequalities and their applications.
- Understanding functions and their graphs, including domain and range, and operations with functions such as composition.
- Understanding absolute value, logarithmic, and exponential functions.
- Using functions to represent and interpret real-world applications.
- Understanding and applying trigonometric functions in basic right- triangle situations.
- Using the trigonometric identity  $\sin^2 x + \cos^2 x = 1$  in various situations.

Along with subscores in the content strands, a student will receive subscores in three process areas: Conceptual Understanding, Procedural Knowledge, and Problem Solving. The following is a list of the skills measured by the CTP Mathematics test at Level 10.

### Numbers and Number Relationships

The student will be able to:

- Understand different forms of complex and real numbers and the relationships between them, including rational and irrational real numbers and exponential and scientific notation.
- Understand properties of operations and perform operations with different forms of real numbers and complex numbers.
- Apply different forms of real numbers in a variety of situations (forms include radicals).
- Apply theories of whole numbers in a variety of situations.

### Geometry and Spatial Sense

The student will be able to:

- Use basic geometric language to classify and characterize properties of geometric figures, including quadrilaterals, triangles, circles, and three-dimensional figures, and apply basic theorems to these figures.
- Apply geometric properties and relationships to two- and three- dimensional figures, including the Pythagorean Theorem, sum of angle measures in a polygon, and triangle inequality; develop formulas to solve geometric problems; and use number line and coordinate geometry.

**MATHEMATICS** CONTINUED

- Apply concepts of measure, including perimeter, circumference, surface area, volume, weight, angle measure, distance, and slope as they relate to parallel or perpendicular lines.
- Apply concepts of congruence, similarity, and simple transformation.

**Data Analysis, Statistics, and Probability**

The student will be able to:

- Generate, organize, evaluate, and interpret various data representations, including graphs, charts, and histograms.
- Understand counting techniques for solving problems, including the use of permutations and combinations; understand and compute mean, median, mode, range, and standard deviation; and make conjectures or inferences from data provided.
- Determine probabilities, solve problems of chance using ratios and related probabilities, and make predictions based on mathematical probabilities and apply probabilities to mutually exclusive and independent events.

**Algebra**

The student will be able to:

- Represent patterns and mathematical situations using tables, graphs, verbal rules, and equations.
- Understand properties of operations, including commutative and associative, and simplify algebraic rational expressions.
- Solve and graph first- and second-degree equations and inequalities in one variable, solve literal equations for a variable, and understand conic sections and their equations.
- Understand systems of equations and inequalities and their applications and understand matrices and perform basic operations with them.
- Apply variables, expressions, and equations to solve real-world problems and mathematical problems including nonlinear equations.
- Understand slope,  $x$ - and  $y$ -intercepts, and relationships between parallel and perpendicular lines and apply these concepts to find an equation of a line, make predictions, and solve rate problems.

**Functions**

The student will be able to:

- Understand properties of functions and their graphs, including domains and ranges.
- Understand the relationships between functions, their transformations, and their inverses and apply composition and other operations with functions.
- Apply trigonometric functions in right-triangle situations and use the fundamental trigonometric identity  $\sin^2 x + \cos^2 x = 1$ .
- Understand absolute value, logarithmic and exponential functions, and their applications to real-world problems, including exponential growth and decay and predictions of business trends.

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Auditory Comprehension	1	Analysis	1.AC.A.1	3

This story is about an adventure that Smokey had. Listen while I tell you about it. Then you will answer four questions.

Smokey is a gray cat with blue eyes and Snowflake is a white cat who lives next door to Smokey. One day, Smokey climbed very high up into a tree. She was afraid and very upset. She cried mournfully for someone to help her get down. Snowflake heard her cries, but she could not help Smokey. Finally, Mrs. Williams heard Smokey's cries. The tree was too high for her to climb, so she called the fire department. The fire fighters came with a tall ladder.

*What is the story mostly about?*

- One of Smokey's adventures
- Fire fighters
- Snowflake helping Smokey
- Mrs. Williams' call

**RATIONALE**

The story tells about Smokey getting stuck in a tree. It is not "mostly about" the fire fighters, or how Snowflake helped, or Mrs. Williams' call. (A) is the correct answer.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Auditory Comprehension	1	Analysis	1.AC.A.2	3

This story is about an adventure that Smokey had. Listen while I tell you about it. Then you will answer four questions.

Smokey is a gray cat with blue eyes and Snowflake is a white cat who lives next door to Smokey. One day, Smokey climbed very high up into a tree. She was afraid and very upset. She cried mournfully for someone to help her get down. Snowflake heard her cries, but she could not help Smokey. Finally, Mrs. Williams heard Smokey's cries. The tree was too high for her to climb, so she called the fire department. The fire fighters came with a tall ladder.

Which of the following pictures shows what probably happened after the fire fighters arrived?

●



Ⓒ



Ⓑ



Ⓓ



### RATIONALE

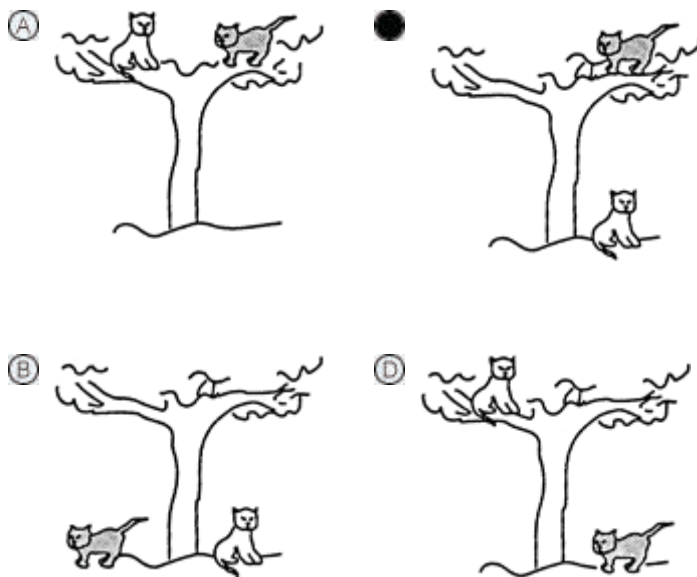
The story reveals that neither Snowflake nor Mrs. Williams could help Smokey. At the end, the fire fighters arrived “with a tall ladder” to get Smokey, as pictured in (A), the correct answer.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Auditory Comprehension	1	Explicit Information	1.AC.EI.1	2

This story is about an adventure that Smokey had. Listen while I tell you about it. Then you will answer four questions.

Smokey is a gray cat with blue eyes and Snowflake is a white cat who lives next door to Smokey. One day, Smokey climbed very high up into a tree. She was afraid and very upset. She cried mournfully for someone to help her get down. Snowflake heard her cries, but she could not help Smokey. Finally, Mrs. Williams heard Smokey's cries. The tree was too high for her to climb, so she called the fire department. The fire fighters came with a tall ladder.

Which of the following pictures shows where Smokey and Snowflake were during the story?



#### RATIONALE

In the story, only the gray cat, Smokey, is up in the tree. The correct answer, therefore, is (C).

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Auditory Comprehension	1	Vocabulary in Context	1.AC.VC.1	2

This story is about an adventure that Smokey had. Listen while I tell you about it. Then you will answer four questions.

Smokey is a gray cat with blue eyes and Snowflake is a white cat who lives next door to Smokey. One day, Smokey climbed very high up into a tree. She was afraid and very upset. She cried mournfully for someone to help her get down. Snowflake heard her cries, but she could not help Smokey. Finally, Mrs. Williams heard Smokey's cries. The tree was too high for her to climb, so she called the fire department. The fire fighters came with a tall ladder.

*Which of the following words means about the same thing as the word "mournfully" in the story?*

softly



angrily



sadly



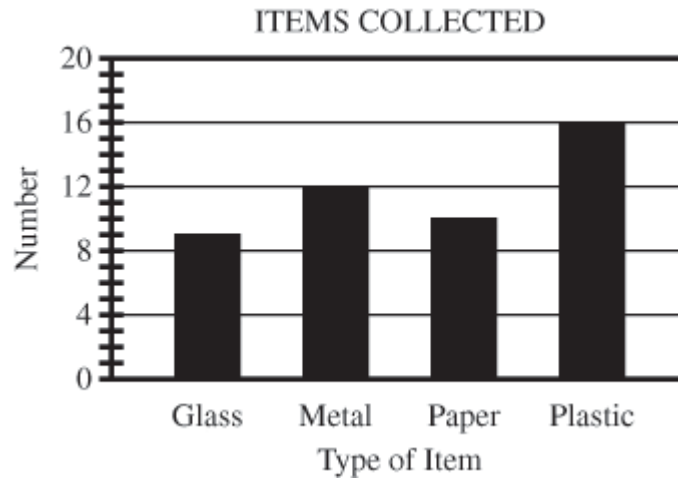
excitedly

**RATIONALE**

Sometimes a "mournful" cry can be soft. But students are told that Smokey was "afraid and very upset." Therefore, (C) is the correct answer.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	1	Data Analysis, Statistics, and Probability	1.MA.DSP.1	2

The graph shows the number of each type of item Sergio collected for a recycling project.



Sergio collected the greatest number of which of the following types of item?

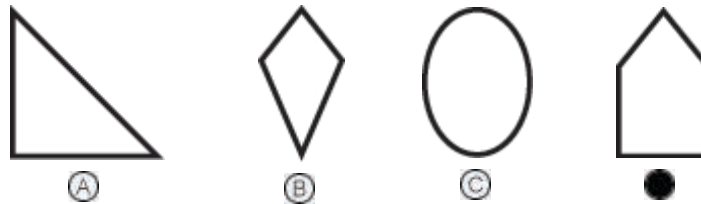
- (A) Glass
- (B) Metal
- (C) Paper
- (D) Plastic

**RATIONALE**

In the graph, the bar that represents plastic is the tallest. This means that the greatest number of items Sergio collected were plastic. The correct answer is choice (D).

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	1	Geometry and Spatial Sense	1.MA.GS.2	2

Which of the following shapes appears to have exactly one pair of parallel sides?

**RATIONALE**

Choice D accurately identifies the shape that has exactly one pair of parallel sides. None of the other figures shown has a pair of parallel sides. The correct answer is choice (D).

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	1	Geometry and Spatial Sense	1.MA.GS.1	2



*How many squares are in the picture?*

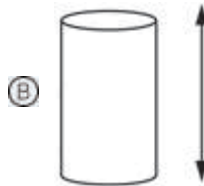
- A 1
- B 2
- C 3
- D 4

**RATIONALE**

The picture looks like a human face and each "eye" is represented by a square. Since squares are not used other than for eyes, the number of squares in the picture is 2. Therefore, choice B is correct.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	1	Measurement	1.MA.M.1	1

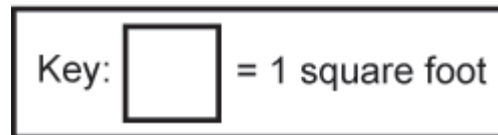
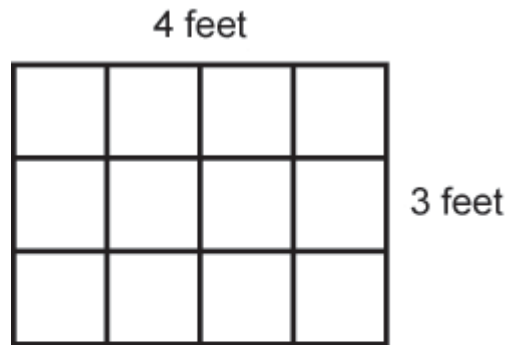
Which of the following would probably *NOT* be given in centimeters?

**RATIONALE**

The length of a car would not be expected to be given in centimeters. It would more likely be given in meters. The lengths of each of the other items could be given in centimeters. The correct answer is choice (C).

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	1	Measurement	1.MA.M.2	2

What is the area, in square feet, of the rectangle shown below?



- 7       10       12       14
- (A)       (B)       (C)       (D)

**RATIONALE**

The area of a rectangle is equal to the product (length)  $\times$  (width). The rectangle shown has a length of 4 feet and a width of 3 feet, so its area is  $4 \times 3 = 12$  square feet. The correct answer is choice (C).

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	1	Number Sense and Operations with Whole Numbers	1.MA.NSW.1	1

Which of the following numbers has a 5 in the tens place?

24,195

 (A)

24,153

24,593

 (C)

25,193

 (D)**RATIONALE**

Choice B is correct. The number 24,153 has a 5 in the tens place.

Choice (A) is incorrect because it has a 5 in the ones place. Choice (C) is incorrect because it has a 5 in the hundreds place. Choice (D) is incorrect because it has a 5 in the thousands place. Choice (B) is correct; 24,153, has a 5 in the tens place. The correct answer is choice (B).

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	1	Patterns, Functions, Pre-Algebra	1.MA.PFP.2	2

Juan had some fish. After he gave four away, he had twelve left. Which of the following number sentences tells the story?

(A)  $\square + 4 = 12$

(B)  $12 - \square = 4$

(C)  $12 - 4 = \square$

(D)  $\square - 4 = 12$

**RATIONALE**

The number of fish Juan had initially is not known, and therefore it is represented by the box. Giving 4 fish away means that 4 is subtracted from the number of fish he had initially. The result of the subtraction is the number of fish he had left, which is 12. Symbolically, this is represented as  $\square - 4 = 12$ . The correct answer is choice (D).

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	1	Patterns, Functions, Pre-Algebra	1.MA.PFP.1	2

Three numbers are missing from the skip counting pattern shown below.

3, 6, 9, \_\_\_\_, \_\_\_\_, \_\_\_\_, 21, 24

What are the three missing numbers in the pattern?

11, 14, 17

A

12, 15, 18

B

12, 15, 19

C

13, 16, 19

D

#### **RATIONALE**

The numerical pattern is formed by the rule "add 3." Therefore, the first missing number should be  $9 + 3 = 12$ , the second missing number should be  $12 + 3 = 15$ , and the third missing number should be  $15 + 3 = 18$ . Therefore, the three missing numbers are 12, 15, 18. The correct answer is choice (B).

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	1	Analysis	1.RC.A.1	2



### Anteaters

Line 5 What is one of the strangest looking animals on Earth? It is a giant anteater. The anteater has a very long, thin tongue. Its tongue can grow up to two feet long and is very sticky. Its sticky tongue helps it catch the insects that it loves to eat. A giant anteater can eat over 30,000 insects a day!

10 Anteaters have long, sharp claws that help them to dig into anthills. When they are not digging, their long claws curve under their paws and make fists. When they walk, they walk on these fists. They do not walk very fast. Anteaters have very bad eyesight but a great sense of smell. They walk with their noses close to the ground. That is how they sniff and find yummy insects to eat.

15 You would have to go to South or Central America to see an anteater in the wild. If you ever go, you know where to find them ... just look for an anthill!

*According to the passage, anteaters use their sense of smell to*

- A stay away from danger
- B look for their babies
- C find their way home
- D search for food

**RATIONALE**

The correct answer to this question is choice D. The last three sentences of paragraph three tell the reader how the anteater uses the sense of smell. The passage says, “Anteaters have very bad eyesight but a great sense of smell. They walk with their noses close to the ground. That is how they sniff and find yummy insects to eat.” From these sentences, the reader knows that anteaters search for food (choice D) by keeping their noses close to the ground.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	1	Explicit Information	1.RC.EI.1	2



### Anteaters

Line  
5 What is one of the strangest looking animals on Earth? It is a giant anteater. The anteater has a very long, thin tongue. Its tongue can grow up to two feet long and is very sticky. Its sticky tongue helps it catch the insects that it loves to eat. A giant anteater can eat over 30,000 insects a day!

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15 You would have to go to South or Central America to see an anteater in the wild. If you ever go, you know where to find them ... just look for an anthill!

*What are some things that help an anteater live?*

- A Good ears and thick fur
- B Soft skin and strong eyes
- C Good nose and long claws
- D Short legs and wide tongue

**RATIONALE**

The correct answer to this question is choice C. In the second paragraph, the author describes how anteaters uncover food to eat by using their long sharp claws. Then the paragraph describes how the anteater finds the food in the first place. Because anteaters cannot see very well, they use their very sharp noses to find food like anthills. Then they dig with their sharp claws to uncover the ants. Then they capture the ants with their long sticky tongues and eat them up. The other choices name characteristics that are not part of the description of the anteater in this passage.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	1	Vocabulary in Context	1.RC.VC.1	2



### Anteaters

Line  
5 What is one of the strangest looking animals on Earth? It is a giant anteater. The anteater has a very long, thin tongue. Its tongue can grow up to two feet long and is very sticky. Its sticky tongue helps it catch the insects that it loves to eat. A giant anteater can eat over 30,000 insects a day!

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15 You would have to go to South or Central America to see an anteater in the wild. If you ever go, you know where to find them ... just look for an anthill!

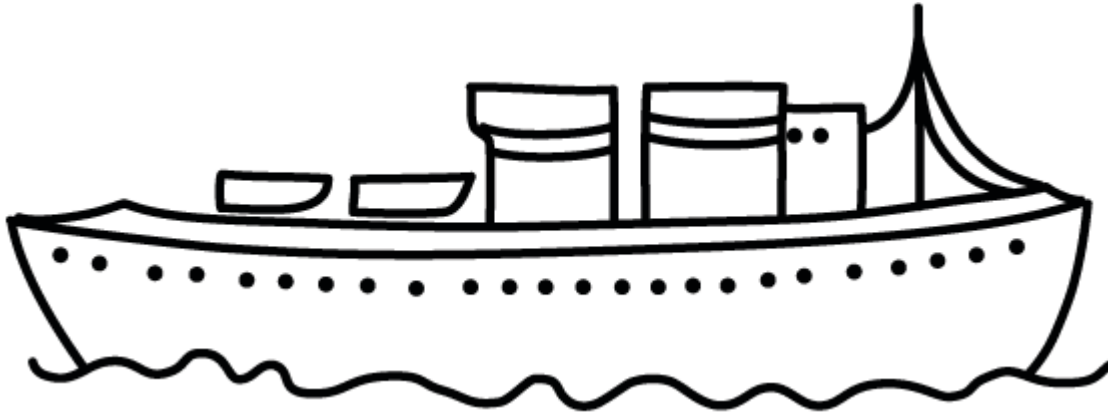
What does *in the wild* mean in the passage?

- Ⓐ At a zoo
- Ⓑ In a circus
- Ⓒ Out in nature
- Ⓓ In a classroom

**RATIONALE**

The correct answer to this question is choice C. The phrase “in the wild” occurs at the beginning of the third paragraph of the passage, where the author tells the reader where anteaters can be found. In this sentence, “You would have to go to South or Central America to see an anteater in the wild,” the reader learns where to find anteaters in their natural habitats. Many people will only see anteaters in books or in a zoo because Central and South America are far away.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Word Analysis	1	Phonic Analysis	1.WA.PA.1	1



Look at number \_\_\_\_.

Look at the picture of the ship. Which word ends with the same sound as the word ship? . . . ship.

- (A) block
- (B) pit
- (C) cliff
- (D) stop

**RATIONALE**

The word “ship” ends with a “p” sound. Only the word in (D) also ends with a “p” sound.

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Word Analysis	1	Structural Analysis	1.WA.SA.1	1

Look at the four underlined words in the sentence.

Fill in the bubble under the one that is a compound word.

Pam bought a lemon pie, ginger cookies, and chocolate cupcakes.

A

B

C

D

A

B

C

D

#### **RATIONALE**

A compound word is made up of two other words. Of these four choices, only the word in (D) has this feature.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Word Analysis	1	Structural Analysis	1.WA.SA.3	2

Sue will [pause] \_\_\_\_\_ for the ball. Which word best completes the sentence?

looking



look



looked



looks

**RATIONALE**

Only the word in choice (B) fits correctly with the helping verb “will.” Thus, (B) is the correct answer.

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Mathematics Achievement	2	Data Analysis, Statistics, and Probability	2.MA.DSP.2	2

Christa has 6 red tiles, 12 blue tiles, 4 yellow tiles, and 8 orange tiles in a bag. She will pull one tile out of the bag without looking. What color of tile is Christa **LEAST** likely to pull out of the bag?

- Red      Blue      Yellow      Orange
- (A)       (B)       (C)       (D)

**RATIONALE**

Christa is least likely to pull out a yellow tile because, of the colors of tiles in the bag, there are the fewest yellow tiles. The correct answer is choice (C).

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	2	Measurement	2.MA.M.3	2

*On Saturday, Mrs. Vincent left home at nine o'clock in the morning. She came back at one o'clock in the afternoon on the same day. How long was she gone?*

- A 10 hours
- B 8 hours
- C 4 hours
- D 2 hours

**RATIONALE**

Choice 3 is correct. From 9 a.m. to noon, 12 p.m., 3 hours have passed. From 12 p.m. to 1 p.m., 1 more hour has passed. Therefore, Mrs. Vincent was gone for  $3 + 1 = 4$  hours.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	2	Number Sense and Operations with Whole Numbers	2.MA.NSW.1	1

*What is one way to write the number four thousand sixty-two?*

422

 A

462

 B

4,062

 C

4,602

 D**RATIONALE**

Choice C represents the decimal form of the word form four thousand sixty-two.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	2	Number Sense and Operations with Whole Numbers	2.MA.NSW.1	1

Which of the following statements is true?

$27 < 24$

 A

$49 < 52$

 B

$71 < 70$

 C

$60 < 53$

 D**RATIONALE**

Choice B is correct, since the angle of the less-than symbol always points to the smaller number.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	2	Number Sense and Operations with Whole Numbers	2.MA.NSW.4	2

*Stephen is saving his money to buy a jacket that costs fifty dollars. He has saved thirty-two dollars. How much more money does he need to save?*

- A \$18
- B \$22
- C \$28
- D \$82

**RATIONALE**

Stephen has already saved \$32 for a jacket that costs \$50, so he will need  $\$50 - \$32 = \$18$  more to buy the jacket. Therefore, choice A is correct.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	2	Patterns, Functions, Pre-Algebra	2.MA.PFP.2	2

Jesse counted 198 books at the library. He counted 83 nonfiction books, 76 fiction books, and some picture books. Which of the following number sentences shows one way to find the number of picture books Jesse counted?

A  $198 - 83 + 76 = \square$

B  $198 - 83 - 76 = \square$

C  $198 + 83 + 76 = \square$

D  $198 + 83 - 76 = \square$

**RATIONALE**

198 total books less the nonfiction books counted and less the fiction books counted would result in the number of picture books counted, so choice B is the correct number sentence.

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Reading Comprehension	2	Analysis	2.RC.A.1	2

Skipper and his older brother Jay want to be champion skaters. They would like to be skilled enough to skate in the Olympics some day. They both take lessons. They practice every chance they get. Jay skates much faster than his brother, but Skipper doesn't mind. He is not interested in racing on skates like Jay, who wants to be a speed skater. His dream is to be a figure skater. He wants to jump and spin and move gracefully through the required skating routines.

*Skipper does not mind that his brother skates faster than he does. Why?*

- (A) Racing on skates is dangerous.
- (B) His brother is older than he is.
- (C) He doesn't want to be a speed skater.
- (D) He doesn't like to practice.

#### **RATIONALE**

The passage says directly that Skipper does not mind that Jay is a faster skater than he is, because Skipper wants to be a figure skater. The only choice that explains why Skipper does not mind that Jay is a faster skater is the third choice, "He doesn't want to be a speed skater." This is the correct answer.

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Reading Comprehension	2	Explicit Information	2.RC.EI.1	3

Skipper and his older brother Jay want to be champion skaters. They would like to be skilled enough to skate in the Olympics some day. They both take lessons. They practice every chance they get. Jay skates much faster than his brother, but Skipper doesn't mind. He is not interested in racing on skates like Jay, who wants to be a speed skater. His dream is to be a figure skater. He wants to jump and spin and move gracefully through the required skating routines.

*What is the main idea of the story?*

- Skipper and Jay want to be very good skaters.
- Jay skates faster than Skipper.
- Skipper wants to be a figure skater.
- Skipper and Jay take ice-skating lessons.

#### **RATIONALE**

All of the choices make true statements about the passage. But the overall main idea of the whole passage is stated only in the first choice, "Skipper and Jay want to be very good skaters." This is the correct answer. All of the other choices are part of this overall main idea.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Word Analysis	2	Structural Analysis	2.WA.SA.2	1

Look at number \_\_\_\_.

Fill in the bubble under the words that mean the same as the contraction in the box.

I'd

I did

I would

I said

I could

A I did

B I would

C I said

D I could

#### RATIONALE

Of the four choices that are provided, the contraction in the box can stand only for the words in (B), "I would."

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Word Analysis	2	Structural Analysis	2.WA.SA.5	2

The number of red blocks was [pause] than the number of yellow blocks. Which word best completes the sentence?

- greater      great      greatest      greats
- (B)       (C)       (D)

**RATIONALE**

When the size of two numbers is being compared, the comparative form of the word “great” must be used. Thus, (A) is the correct answer.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Word Analysis	2	Structural Analysis	2.WA.SA.4	1

Look at number \_\_\_\_.

The word in the box means only one of something. Fill in the bubble under the word that means more than one of those things.

engine

engine



engines



enginess



enginies

**RATIONALE**

Neither “engine” nor “enginess” nor “enginies” is the correct plural form of the word “engine.” Choice (B), therefore, is the correct answer.

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Word Analysis	2	Structural Analysis	2.WA.SA.6	2

Look at number \_\_\_\_.

The movie was very [pause].

Which word best completes the sentence?

The movie was very -----.

- exciting
- excitement
- excited
- excitation

**RATIONALE**

Of the four choices that are provided, only “exciting” makes sense in the context of this sentence. Therefore, (A) is the correct answer.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Word Analysis	2	Sight Words	2.WA.SW.1	1

Look at number \_\_\_\_.

Fill in the bubble under the word slight . . . There was a slight breeze . . . slight.

slit      slate      slight      slide  
 (A)       (B)       (C)       (D)

**RATIONALE**

Neither “slit” nor “slate” nor “slide” provides the correct spelling of the word “slight.” Thus (C) is the correct answer.

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Writing Mechanics	2	Capitalization	2.WM.C.2	1

Choose the capitalization error in the sentence, if there is one. If there is no error, choose the words "No error."

why did Jack rush out of his class at the stroke of noon? No error

A      B                  C                                  D

A

B

C

D

#### **RATIONALE**

##### **Content Category, Capitalization**

Choice A is the correct choice. The first word of a sentence should always be capitalized. In Choice B, names of people, in this case "Jack," should always be capitalized. In Choice C, the only pronoun that should always be capitalized is the personal pronoun "I." Choice D is an incorrect choice. There is an error at Choice A.



SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Mechanics	2	Punctuation	2.WM.P.4	1

*Maria said these books ----- hers.*

*Which of the following is correct?*

- A are'nt
- B aren't
- C arent
- D ar'ent

#### **RATIONALE**

##### **Content Category, Punctuation/Contractions**

Choice 2 is correct. It is the only choice that puts the apostrophe in the right place; that is, between the "n" and the "t" to take place of the "o" in "are not." Choice 1 is incorrect. It is never appropriate to put the apostrophe between the "e" and the "n" when contracting "are not." Choice 3 is incorrect. The contraction of "are not" needs an apostrophe between the "n" and the "t," and this choice does not contain an apostrophe. Choice 4 is incorrect. It is never appropriate to put the apostrophe between the "r" and the "e" when contracting "are not."

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Mechanics	2	Spelling	2.WM.S.1	1

*Which of the following words is spelled incorrectly?*

- impolite    definite    favorate    immediate
- A     B     C     D

**RATIONALE****Content Category, Spelling**

Choice 3 is the correct choice. The word is spelled "favorite," not "favorate." Choices 1, 2, and 4 are all spelled correctly.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Mechanics	2	Usage	2.WM.U.1	2

Choose the word that goes into the blank to make the sentence correct.

That is \_\_\_\_\_ brand-new coat in the closet.

- A he
- B hes
- C him
- D his

#### **RATIONALE**

##### **Content Category, Usage/Pronouns**

Choice D is correct. It is the only choice that provides the necessary possessive pronoun "his" to logically modify the noun "coat." The other choices are not possessive pronouns.

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Auditory Comprehension	3	Explicit Information	3.AC.EI.1	3

First, listen to a letter that Andrew wrote to his school newspaper. Then you will answer three questions.

To the Editor:

I am writing to let you know about the selfish way some students in our school are acting. Every day at lunchtime, a group of sixth graders takes over the schoolyard. They use all the playground equipment and do not let us younger kids play.

Maybe the school could take a part of the playground and set it aside for kids under ten. That way, everyone would have a place to play and we could all have a good time.

*Which of the following sentences tells the main idea of Andrew's letter?*

The playground needs more equipment.

(A)

Big kids should play with little kids.

(B)

Little kids should have the playground to themselves.

(C)

Everyone should have a place to play.

(D)

#### **RATIONALE**

Andrew does not argue that more equipment is needed, or that big kids and little kids should play together, or that only little kids should use the playground. Therefore, (D) is the correct answer.

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Auditory Comprehension	3	Explicit Information	3.AC.EI.2	2

First, listen to a letter that Andrew wrote to his school newspaper. Then you will answer three questions.

To the Editor:

I am writing to let you know about the selfish way some students in our school are acting. Every day at lunchtime, a group of sixth graders takes over the schoolyard. They use all the playground equipment and do not let us younger kids play.

Maybe the school could take a part of the playground and set it aside for kids under ten. That way, everyone would have a place to play and we could all have a good time.

*According to Andrew, who can have a good time if the changes are made?*

Little kids only   Big kids only   All students   Both students and teachers

A

B

C

D

**RATIONALE**

In the letter Andrew states that, if his proposed change is implemented, “we could all have a good time.” Thus (C) is the correct answer.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Auditory Comprehension	3	Inference	3.AC.1.2	3

Now, listen to this story. Then, you will answer two questions.

Molly and her mother went for a hike through the woods. It was a beautiful summer day, and they climbed a high hill. They stopped for lunch at the top of the hill and admired the view as they ate peanut butter sandwiches and drank apple juice. There were no other people in sight anywhere.

On the way back, they stopped to pick berries in a thicket of bushes. As they were enjoying the sweet, juicy berries, her mother suddenly said, "You know, bears like berries just as much as people do. Maybe we'd better get away from here."

*What do you think probably happened next?*

They decided to stay and pick more berries.

(A)

They stayed to see a bear.

(B)

They screamed, "Help!"

(C)

They left right away.

(D)

#### **RATIONALE**

At the end of their hike, Molly's mother states that "bears like berries just as much as people do. Maybe we better get away from here." Therefore, (D) is the correct answer.

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Auditory Comprehension	3	Inference	3.AC.I.1	3

First, listen to a letter that Andrew wrote to his school newspaper. Then you will answer three questions.

To the Editor:

I am writing to let you know about the selfish way some students in our school are acting. Every day at lunchtime, a group of sixth graders takes over the schoolyard. They use all the playground equipment and do not let us younger kids play.

Maybe the school could take a part of the playground and set it aside for kids under ten. That way, everyone would have a place to play and we could all have a good time.

*What is the most likely reason Andrew wrote the letter?*

Because it was required for English class

(A)

Because he was concerned about dangerous playground equipment

(B)

To inform people about new playground rules

(C)

To suggest a solution to a problem

(D)

#### **RATIONALE**

In Andrew's letter, there is no mention of English class requirements or dangerous playground equipment. He proposes a new rule, but it is not in effect yet. Therefore, (D) is the correct answer.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	3	Data Analysis, Statistics, and Probability	3.MA.DSP.2	2

Mrs. Jackson's class grew plants for a science project. The chart below shows the growth of each plant.

PLANT GROWTH

Type of Plant	Growth (in inches)
Tomato	44
Bean	19
Sunflower	19
Watermelon	30

What is the range of the data?

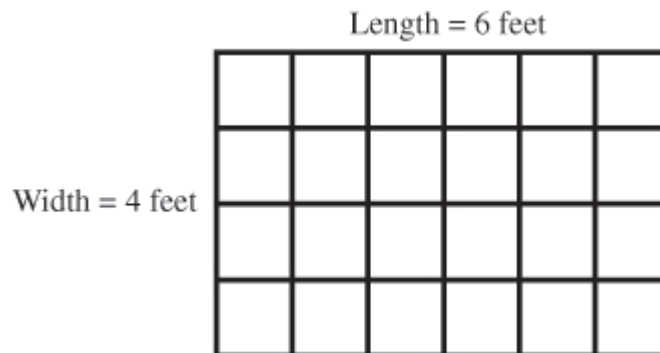
- A 28
- B 25
- C 19
- D 14

**RATIONALE**

Range is the difference between the highest value and the lowest value in a set. In the chart, the highest number is 44 and the lowest number is 19. 44 less 19 is 25. The correct answer is choice (B).

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	3	Measurement	3.MA.M.1	2

The length and width of the rectangular floor in a closet are shown in the diagram below.



What is the length of the floor, in yards? (1 yard = 3 feet)

- A 2 yards
- B 3 yards
- C 9 yards
- D 18 yards

**RATIONALE**

The diagram shows the length of the floor as 6 feet. Since there are 3 feet in 1 yard, the length of the floor is 2 yards. The correct answer is choice (A).

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	3	Number Systems and Number Theory	3.MA.NSF.3	2

Jane gets twice as much allowance as Mark. If Jane gets \$1.20, how much does Mark get?

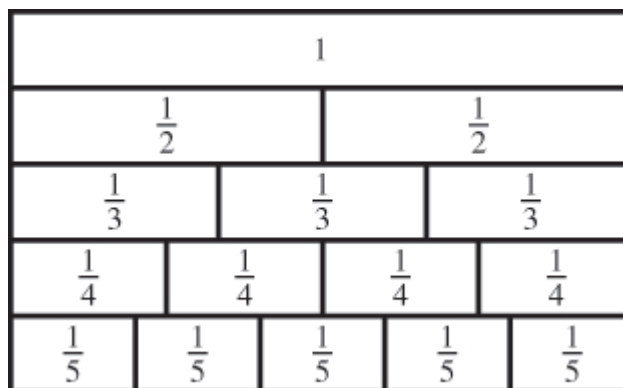
- A \$0.60
- B \$1.20
- C \$1.80
- D \$2.40

**RATIONALE**

If Jane gets twice as much allowance as Mark, then Mark gets half as much as Jane. Therefore, if Jane gets \$1.20, Mark gets  $\$1.20 \div 2 = \$0.60$ . The correct answer is choice (A).

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	3	Number Systems and Number Theory	3.MA.NSF.1	2

A fraction model is shown below.



Which of the following lists of fractions is in order from greatest to least value?

- (A)  $\frac{1}{3}, \frac{1}{2}, \frac{3}{5}, \frac{3}{4}$
- (B)  $\frac{3}{4}, \frac{3}{5}, \frac{1}{2}, \frac{1}{3}$
- (C)  $\frac{3}{5}, \frac{3}{4}, \frac{1}{3}, \frac{1}{2}$
- (D)  $\frac{1}{2}, \frac{1}{3}, \frac{3}{4}, \frac{3}{5}$

#### RATIONALE

The correct answer is choice (B). Using the fraction model provided, it can be noticed that  $\frac{3}{4}$  has the greatest value because it covers the greatest area. The first fractions listed in all the other answer choices can be eliminated.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	3	Patterns, Functions, Pre-Algebra	3.MA.PFP.2	2

There were 10 books on a shelf. Shane took 7 books from the shelf. Then Amy put 8 books on the shelf. Which of the following number sentences can be used to find the total number of books that were on the shelf after Amy put the books on the shelf?

$10 - 7 + 8 = \square$



$10 - 7 - 8 = \square$



$10 + 7 - 8 = \square$



$10 + 7 + 8 = \square$

**RATIONALE**

The correct answer is choice (A). It is given that initially there were 10 books on a shelf, and Shane took 7 books from the shelf. The number of books left on the shelf after Shane took 7 books is  $10 - 7$ . Then Amy put 8 books on the shelf. The number of books on the shelf after Amy put 8 books on it was  $(10 - 7) + 8$ , which can also be written as  $10 - 7 + 8$ .

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	3	Analysis	3.RC.A.2	3



#### All Dressed Up and Nowhere to Go

At first I heard them on the roof,  
 Their gentle pitter-pat,  
 Then wet upon the window was  
 Their friendly rat-a-tat.

“Come and play,” the raindrops called.  
 “In puddles we can splash.  
 So hurry, girl, put on your gear!  
 Get ready in a flash!”

Eager to enjoy some fun,  
 I dug out my umbrella.  
 I found my rubber boots, and yet,  
 My coat? I couldn't tell ya!

Where was that yellow coat of mine?  
 Not hanging on the hook,  
 Not in the car, not on the porch,  
 No place I chose to look!

I even checked my sister's stuff,  
 Though she would never don it.  
 She has her own, and mine's too small.  
 Besides, I'd never share it!

One final hiding spot remained:  
 The closet in the hall.  
 A-ha! I laughed and threw it on.  
 Now I had it all!

But while I'd hunted for my coat,  
The rain had stopped its dance.  
And now the sky was clearing so  
The sun would have its chance.

*In the second stanza, the weather is given the qualities of a*

- (A) puddle
- (B) person
- (C) raincoat
- (D) window

#### **RATIONALE**

The correct answer to this question is choice B. The reader must read stanza 2 of the poem carefully to answer this question. In stanza 2, the rain is speaking to the girl and asking her to come out and play. This is exactly how another child might ask the girl to come and play, so the rain is speaking just like a person. One of the ways the rain describes what it and the girl will do is “splash in puddles”—just like children playing in the rain. The rain is not like a puddle or a raincoat or a window, but like another child.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	3	Analysis	3.RC.A.2	3



### All Dressed Up and Nowhere to Go

At first I heard them on the roof,  
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 “In puddles we can splash.  
 So hurry, girl, put on your gear!  
 Get ready in a flash!”

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 She has her own, and mine's too small.  
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One final hiding spot remained:  
 The closet in the hall.  
 A-ha! I laughed and threw it on.  
 Now I had it all!

But while I'd hunted for my coat,  
The rain had stopped its dance.  
And now the sky was clearing so  
The sun would have its chance.

The first two lines in stanza 6 of the poem say "One final hiding spot remained:/The closet in the hall." What makes these lines funny in the context of the poem?

- Ⓐ The hallway is the fastest path to the outside door.
- Ⓑ The speaker has already checked the porch and the car.
- Ⓒ A closet is the obvious place to look for coats, not a hiding place.
- Ⓓ The closet is the place the speaker found her umbrella and boots.

#### **RATIONALE**

The correct answer to this question is choice C. What makes these lines funny is that what the speaker says suggests that the last place she would expect to find a coat is in the hall closet. But most people would look in the hall closet *first* if they were searching for a raincoat. Choice A is not suggested by anything in the poem. The speaker does say that she has checked the porch and car (choice B), but that does not make these lines funny. There is no information about where the speaker found her umbrella and boots (choice D).

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	3	Explicit Information	3.RC.EI.2	2



### All Dressed Up and Nowhere to Go

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 Now I had it all!

But while I'd hunted for my coat,  
The rain had stopped its dance.  
And now the sky was clearing so  
The sun would have its chance.

*At the beginning of the poem, the weather outside is*

- rainy
- snowy
- windy
- sunny

**RATIONALE**

The correct answer to this question is choice A. The reader must pay attention to the first line of the second stanza to answer this question. That line says, "Come and play," the raindrops called." From this line the reader knows that what is described in the first stanza of the poem is rain, and not snow (choice B). There is no mention of the wind (choice C), and it is only at the end of the poem that the sun comes out (choice D).

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	3	Inference	3.RC.1.2	2



### All Dressed Up and Nowhere to Go

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 A-ha! I laughed and threw it on.  
 Now I had it all!

But while I'd hunted for my coat,  
The rain had stopped its dance.  
And now the sky was clearing so  
The sun would have its chance.

*The speaker in the poem spends most of her time looking for her*

- A umbrella
- B boots
- C coat
- D hat

**RATIONALE**

The correct answer to this question is choice C. There are 7 stanzas or verses in this poem, and four of them--stanzas 3, 4, 5, and 6--mention the speaker's search for her coat. The speaker finds the umbrella and the boots in stanza 2 (choices A and B), and the speaker never mentions looking for a hat (choice D).

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	3	Vocabulary in Context	3.RC.VC.1	2



#### All Dressed Up and Nowhere to Go

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 Not in the car, not on the porch,  
 No place I chose to look!

I even checked my sister's stuff,  
 Though she would never don it.  
 She has her own, and mine's too small.  
 Besides, I'd never share it!

One final hiding spot remained:  
 The closet in the hall.  
 A-ha! I laughed and threw it on.  
 Now I had it all!

But while I'd hunted for my coat,  
The rain had stopped its dance.  
And now the sky was clearing so  
The sun would have its chance.

What does the word don mean in the poem?

- A Own
- B Like
- C Lose
- D Wear

#### **RATIONALE**

The correct answer to this question is choice D. In stanza 5 of the poem, the speaker says when she is describing her search for her raincoat, "I even checked my sister's stuff,/Though she would never don it./She has her own, and mine's too small." From these lines, the reader can figure out that "don it" means something like "put it on" or "wear it." None of the other choices fits into this context.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Verbal Reasoning	3	Categorical Reasoning	3.VR.CR.2	2

*Which of the following words is a heading for the others?*

- A Dollars
- B Nickels
- C Coins
- D Money

**RATIONALE**

The correct answer to this categorical reasoning question is choice 4. This is the only word that names a category that includes all of the other choices.

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Verbal Reasoning	3	Logical Reasoning	3.VR.LR.2	3

(1) The United States is the world's largest consumer of Swiss army knives. (2) People in the United States buy almost forty percent of all of these knives made in a year. (3) The tool is so useful that American astronauts consider it a must for their trips into space. (4) As might be guessed from its name, the Swiss army knife was first developed and used by the Swiss army in 1891. (5) Calling it a knife is misleading, however, since it may contain as many as 24 separate tools.

*To support the idea that Swiss army knives are useful, it would be most helpful to add information about*

- some of the tools they contain
- famous people who own them
- where they are manufactured
- the knives' cost

#### **RATIONALE**

This question asks the test taker to identify information that would help to support the idea that Swiss army knives are useful. The only choice that states something about the Swiss army knife that has anything to do with its actual uses is the first choice, which is the correct answer. Who owns the knives, where they are made, and how much they cost are not connected to their uses.

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Verbal Reasoning	3	Logical Reasoning	3.VR.LR.1	2

(1) The United States is the world's largest consumer of Swiss army knives. (2) People in the United States buy almost forty percent of all of these knives made in a year. (3) The tool is so useful that American astronauts consider it a must for their trips into space. (4) As might be guessed from its name, the Swiss army knife was first developed and used by the Swiss army in 1891. (5) Calling it a knife is misleading, however, since it may contain as many as 24 separate tools.

*The passage contains information about all of the following EXCEPT*

- (A) why the term "knife" is misleading
- (B) which country purchases the most knives
- (C) where the knife was first developed
- (D) how many knives are produced each year

#### **RATIONALE**

This question asks the test taker to deduce from the given information what is NOT known. Sentence (5) of the passage eliminates the first choice. The first sentence of the passage eliminates the second choice. Sentence (4) eliminates the third choice. The only fact not stated in the passage is what is stated in the fourth choice, which is the correct answer.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Verbal Reasoning	3	Logical Reasoning	3.VR.LR.2	3

(1) The United States is the world's largest consumer of Swiss army knives. (2) People in the United States buy almost forty percent of all of these knives made in a year. (3) The tool is so useful that American astronauts consider it a must for their trips into space. (4) As might be guessed from its name, the Swiss army knife was first developed and used by the Swiss army in 1891. (5) Calling it a knife is misleading, however, since it may contain as many as 24 separate tools.

*To tell someone about the usefulness of a Swiss army knife, which of the following sentences would probably be most helpful?*

- (A) Sentence 1
- (B) Sentence 2
- (C) Sentence 3
- (D) Sentence 4

**RATIONALE**

This question focuses on the usefulness of the Swiss army knife, and it asks the test taker to identify the sentence that gives the most information about the knife's usefulness. Sentences 1 and 2 talk about the sales of the knife in the U.S. Sentence 4 talks about the origins of the knife. Only Sentence 3 talks about the usefulness of the knife, and this is the correct answer (C).

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Writing Concepts and Skills	3	Organization	3.WC.O.3	3

Which order is best for the listed sentences?

1. No matter what, we always have a good time.
2. We like to browse along the rows, looking for interesting vegetables.
3. Every Saturday my sister and I walk to the Farmers' Market.
4. Sometimes we see some we have never seen before!

- A 1, 2, 4, 3
- B 3, 4, 2, 1
- C 2, 1, 3, 4
- D 3, 2, 4, 1

#### **RATIONALE**

This question asks students to put the details in a logical sequence. Because these sentence describe an activity, one logical way to organize them is by time--what happened first, next, and last. With this in mind, sentence 3 is clearly the introduction to the description of the visit to the market. Sentence 2 comes next in the logical sequence, followed by sentence 4 and ending with sentence 1. Choices A and C start in the middle of the activity. Choice B has the correct beginning, but follows it with a sentence that does not make sense in the description.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Concepts and Skills	3	Purpose, Audience, Focus	3.WC.PAF.1	2

Joseph is writing a letter to his grandfather, William Jacobson. Which greeting should he use?

- A Dear Mr. Jacobson,
- B Dear Grandfather,
- C Dear William,
- D Dear William Jacobson,

**RATIONALE**

This question asks students to draw a logical conclusion about how to address the intended audience for the letter. Since William Jacobson is Joseph's grandfather, choice B is the logical correct answer.

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Writing Concepts and Skills	3	Style and Craft	3.WC.SC.3	3

(1) Many people like to collect rocks. (2) \_\_\_\_\_ (3) They are everywhere on Earth. (4) Some people like to collect rocks because they are pretty. (5) These people look for rocks with interesting shapes and colors. (6) Other people like to learn about the science of rocks. (7) Rocks with different names they try to find. (8) Rock collecting is fun and interesting!

*What is the correct way to revise sentence 7?*

- A They try to find rocks with different names.
- B Rocks with different names they are trying to find.
- C Some rocks have different names they try to find them.
- D Because the rocks have different names they trying to find them.

#### **RATIONALE**

This question asks students to identify a well-crafted sentence. Choices B, C, and D have grammatical errors and lack sentence fluency. Choice A is the only option without any grammatical errors, which indicates that choice A is the only correct answer.

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Writing Concepts and Skills	3	Style and Craft	3.WC.SC.1	3

Choose the sentence that best combines the two sentences below.

*José wrote a story. José illustrated his story.*

- A A story was written by José, and he also made illustrations.
- B José wrote a story, and José illustrated his story.
- C A story with illustrations was written by José.
- D José wrote and illustrated a story.

#### **RATIONALE**

This question asks students to combine two sentences into one effective and logical sentence. The sentence that most effectively and logically combines the two sentences is choice D. This is the shortest and the most direct way to say what the two given sentences say. All of the other choices add more words and repeat words unnecessarily.

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Writing Concepts and Skills	3	Style and Craft	3.WC.SC.3	3

*Which of the following sentences flows most smoothly?*

- A My book report about alligators is due on Tuesday.
- B The alligator book report that I have is due on Tuesday.
- C Tuesday, I have an alligator book report, and it is due.
- D The book report that I have is due on Tuesday about alligators.

**RATIONALE**

This question asks students to identify a well-crafted sentence. Choice A provides a sentence that is concise and well-crafted, so choice A is the correct answer.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Concepts and Skills	3	Supporting Details	3.WC.SD.2	2

(1) Many people like to collect rocks. (2) \_\_\_\_\_ (3) They are everywhere on Earth. (4) Some people like to collect rocks because they are pretty. (5) These people look for rocks with interesting shapes and colors. (6) Other people like to learn about the science of rocks. (7) Rocks with different names they try to find. (8) Rock collecting is fun and interesting!

Which of the following sentences would fit best as sentence 2?

- A Sometimes rocks are sold at roadside stands.
- B One reason is because rocks are easy to find.
- C Rocks can be used to build stone walls.
- D People will collect rocks when they can.

#### **RATIONALE**

This question asks students to choose the sentence that best fits after the first sentence in the paragraph. Here is the sequence of sentences that begins this paragraph: “(1) Many people like to collect rocks. (2) \_\_\_\_\_ (3) They are everywhere on Earth.” The only sentence among the choices that links the first sentence about “many people” and the third sentence about how many rocks there are on Earth is choice B. Choices A and C are both too specific for this position in the paragraph, while choice D does not really link sentences 1 and 3.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Concepts and Skills	3	Supporting Details	3.WC.SD.1	3

Which of the following sentences could best be added to the start of paragraph 1?

\_\_\_\_\_ Every summer her family would take a trip down to the shore. Even though it took a really long time to get there, it was always worth it when Jennie felt the cool salt water lapping at her bare toes.

- A The car trip to the beach was always much too boring.
- B Once Jennie saw a whale from the shoreline of the beach.
- C Jennie's favorite childhood memory was going to the beach.
- D Jennie's family liked to go fishing after arriving at the beach.

**RATIONALE**

This question asks students to choose an appropriate topic sentence for the paragraph. Choice C is broad and relates to each detail in the paragraph, whereas the other sentences explain the trip to the beach. So, only choice C is the correct answer.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Mechanics	3	Capitalization	3.WM.C.1	1

Choose the capitalization error in the sentence, if there is one. If there is no error, choose the words "No error."

Anisha moved to San francisco, California. No error  
A B C D

A

B

C

D

**RATIONALE****Content Category, Capitalization**

Choice B is the correct choice. Place names, such as "San Francisco, California," should always be capitalized. Choice D is incorrect. There is an error at Choice B.

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Writing Mechanics	3	Punctuation	3.WM.P.1	2

Choose the punctuation error in the sentence, if there is one. If there is no error, choose the words “No error.”

Sam went to the store to buy milk    cheese    and bread    No error  
A            B            C            D

- A
- B
- C
- D

**RATIONALE****Content Category, Punctuation**

Choice A is the correct choice. The serial comma is needed to separate the first two items in the series. Choice B is an incorrect choice. The serial comma is used appropriately to separate the last two items in the series. Choice C is an incorrect choice. A period is used correctly to punctuate the end of a complete sentence. Choice D is incorrect. There is an error at Choice A.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Mechanics	3	Punctuation	3.WM.P.3	1

*The scientist said, -----*

*Which of the following is punctuated correctly?*

- Ⓐ Brontosaurus was a giant plant eater.
- Ⓑ "Brontosaurus was a giant plant eater.
- Ⓒ Brontosaurus was a giant plant eater."
- Ⓓ "Brontosaurus was a giant plant eater."

#### **RATIONALE**

##### **Content Category, Punctuation/Dialogue**

Choice 4 is correct. It is the only option that provides the necessary opening and closing quotation marks before and after what the scientist said.

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Writing Mechanics	3	Usage	3.WM.U.5	2

*Which of the following is NOT a complete sentence?*

- Ⓐ I went to the library to borrow a book.
- Ⓑ Sometimes I like to play on the slide.
- Ⓒ While his best friend goes to the park.
- Ⓓ She wants me to turn off the radio.

#### **RATIONALE**

##### **Content Category, Usage/Sentence Fragments**

Choice C is the correct choice. It is a sentence fragment. It lacks a subject and a main verb to carry out the action of the sentence. Each of the other choices is a complete sentence with a subject and a main verb that carries out the action of the sentence.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Mechanics	3	Usage	3.WM.U.3	2

*Claire was still ----- at breakfast.*

*Which of the following is correct?*

- A sleep
- B sleepy
- C sleepily
- D more sleepily

**RATIONALE****Content Category, Usage/Modification**

Choice 2 is correct. It is the only choice that provides an adjective ("sleepy") to describe the noun "Claire."

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	4	Data Analysis, Statistics, and Probability	4.MA.DSP.3	1

When the weather forecast predicts that there is a 40% chance of snowing, what is the probability that it will snow?

A  $\frac{1}{40}$

B  $\frac{40}{100}$

C  $\frac{40}{60}$

D  $\frac{40}{1}$

**RATIONALE**

The correct answer is choice (B). The expression "there is a 40% chance of snowing" means that the probability that it will snow is 40 out of 100 or, expressed as the fraction, 40/100.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	4	Measurement	4.MA.M.4	2

As soon as the school day ends, Anna begins the activities listed below.

- 45 minutes doing homework
- 30 minutes practicing piano
- 45 minutes playing basketball
- 15 minutes walking home

Anna finishes all the activities on her list at 5:30 P.M. At what time does Anna's school day end?

- 3:15 P.M.
- 3:20 P.M.
- 3:25 P.M.
- 3:30 P.M.

**RATIONALE**

Anna spends 2 hours and 15 minutes on her activities; 5:30 P.M. less 2 hours and 15 minutes puts the time at 3:15 P.M. The correct answer is choice (A).

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	4	Number Systems and Number Theory	4.MA.NSF.2	2

Terrence needs to subtract  $\frac{1}{2}$  from  $\frac{3}{4}$ . Which of the following expressions is equivalent to  $\frac{3}{4} - \frac{1}{2}$ ?

(A)  $\frac{3-1}{4}$

(B)  $\frac{3-1}{4-2}$

(C)  $\frac{3}{4} - \frac{2}{4}$

(D)  $\frac{3}{4} - \frac{1}{4}$

**RATIONALE**

To subtract  $\frac{1}{2}$  from  $\frac{3}{4}$ , common denominators must be found.  $\frac{2}{2} \times \frac{1}{2} = \frac{2}{4}$ . Substitute  $\frac{2}{4}$  for  $\frac{1}{2}$  in the expression  $\frac{3}{4} - \frac{1}{2}$  to get the equivalent expression. The correct answer is choice (C).

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Mathematics Achievement	4	Number Systems and Number Theory	4.MA.NSF.3	2

Mrs. Lopez bought 8 books for \$4.75 each. She paid for the books with a \$50.00 bill. How much change should Mrs. Lopez have received?

- (A) \$38.00
- (B) \$37.25
- (C) \$12.75
- (D) \$12.00

**RATIONALE**

The correct answer is choice (D). First calculate 8 times 4.75 to get 38. Then subtract 38 from 50 to get 12.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	4	Number Sense and Operations with Whole Numbers	4.MA.NSW.2	1

*How is sixty thousand, seven hundred written as a numeral?*

6,007



6,700



60,007



60,700

**RATIONALE**

$60,000 + 700 = 60,700$ . The correct answer is choice (D).

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	4	Patterns, Functions, Pre-Algebra	4.MA.PFP.3	1

If  $\frac{1}{2} = \frac{\square}{20}$ , then  $\square =$

- (A) 2
- (B) 10
- (C) 20
- (D) 40

**RATIONALE**

In the fraction  $\frac{1}{2}$ , the numerator is half the denominator. Therefore, for the fractions to be equivalent,  $\square$  should be equal to half of 20, which is 10. The correct answer is choice (B).

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	4	Explicit Information	4.RC.EI.2	2

*Ancient people wrote myths to explain things in nature that they did not understand. This is one of them.*

There once lived a maiden named Arachne. She was the finest weaver in the land. Arachne was very proud. One day, she challenged the goddess Minerva to a weaving contest. Her friends and family were worried. "Do not try to take on a goddess," they said.

But Arachne would not listen to them. She was too proud. The goddess arrived, and the contest began. When Arachne saw Minerva's beautiful weaving, she felt ashamed. No mere person could win against a goddess, after all.

As a warning to other mortals, Minerva punished Arachne. She sprinkled her with a magic juice. Arachne's hair, nose, and eyes came off. Her head and body grew smaller. Her fingers became thin legs. Minerva had turned her into a spider. From that day on, Arachne and all of her children would spend their days weaving webs.

*Which of the following happened first in the story?*

- A Minerva punished Arachne.
- B Arachne's friends warned her not to challenge Minerva.
- C Arachne challenged Minerva to a contest.
- D Arachne and her children wove webs.

#### **RATIONALE**

To answer this question the reader must pay attention to the order of events in the myth. The fourth sentence of the myth says, "One day, she challenged the goddess Minerva to a weaving contest." Once Arachne did this, her friends warned her, then Minerva punished her, and finally Arachne and her children became spiders forever. This makes the third choice the correct answer.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	4	Explicit Information	4.RC.EI.1	3

*Ancient people wrote myths to explain things in nature that they did not understand. This is one of them.*

There once lived a maiden named Arachne. She was the finest weaver in the land. Arachne was very proud. One day, she challenged the goddess Minerva to a weaving contest. Her friends and family were worried. "Do not try to take on a goddess," they said.

But Arachne would not listen to them. She was too proud. The goddess arrived, and the contest began. When Arachne saw Minerva's beautiful weaving, she felt ashamed. No mere person could win against a goddess, after all.

As a warning to other mortals, Minerva punished Arachne. She sprinkled her with a magic juice. Arachne's hair, nose, and eyes came off. Her head and body grew smaller. Her fingers became thin legs. Minerva had turned her into a spider. From that day on, Arachne and all of her children would spend their days weaving webs.

*What is the main idea of the story?*

- A The goddess Minerva arrived and the weaving contest began.
- B What happened when Arachne challenged Minerva to a weaving contest.
- C Arachne was the finest weaver in the land.
- D Why Arachne's friends were worried when she challenged Minerva.

#### **RATIONALE**

To answer this question, the reader must find a sentence that accurately summarizes the entire story. The first, third, and fourth choices are all accurate statements, but they tell only one detail from the story. Only the second choice includes Arachne's challenge, the contest, and Arachne's punishment. This is the correct answer.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	4	Inference	4.RC.I.1	2

*Ancient people wrote myths to explain things in nature that they did not understand. This is one of them.*

There once lived a maiden named Arachne. She was the finest weaver in the land. Arachne was very proud. One day, she challenged the goddess Minerva to a weaving contest. Her friends and family were worried. “Do not try to take on a goddess,” they said.

But Arachne would not listen to them. She was too proud. The goddess arrived, and the contest began. When Arachne saw Minerva’s beautiful weaving, she felt ashamed. No mere person could win against a goddess, after all.

As a warning to other mortals, Minerva punished Arachne. She sprinkled her with a magic juice. Arachne’s hair, nose, and eyes came off. Her head and body grew smaller. Her fingers became thin legs. Minerva had turned her into a spider. From that day on, Arachne and all of her children would spend their days weaving webs.

*Why did Arachne’s friends warn her not to compete with Minerva?*

- A They thought she had won enough contests already.
- B They thought the goddess would take away her weaving.
- C They knew the goddess had magic juice.
- D They were worried about what might happen to her.

#### **RATIONALE**

To answer this question the reader needs to pay attention to the part of the myth that talks about Arachne’s friends. At the end of the first paragraph, the myth says, “Her friends and family were worried. ‘Do not try to take on a goddess,’ they said.” The reader knows from these sentences that Arachne’s friends and family were worried that a goddess was much more powerful than Arachne and could use that power to hurt Arachne. This makes the fourth choice the correct answer. There is no support in the myth for the first three choices.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	4	Inference	4.RC.1.2	3

*Ancient people wrote myths to explain things in nature that they did not understand. This is one of them.*

There once lived a maiden named Arachne. She was the finest weaver in the land. Arachne was very proud. One day, she challenged the goddess Minerva to a weaving contest. Her friends and family were worried. "Do not try to take on a goddess," they said.

But Arachne would not listen to them. She was too proud. The goddess arrived, and the contest began. When Arachne saw Minerva's beautiful weaving, she felt ashamed. No mere person could win against a goddess, after all.

As a warning to other mortals, Minerva punished Arachne. She sprinkled her with a magic juice. Arachne's hair, nose, and eyes came off. Her head and body grew smaller. Her fingers became thin legs. Minerva had turned her into a spider. From that day on, Arachne and all of her children would spend their days weaving webs.

*The passage suggests that people used this myth to explain why*

- A goddesses punish mortals
- B spiders weave webs
- C friends know best
- D Minerva was a great weaver

#### **RATIONALE**

To answer this question the reader has to draw a conclusion about what this myth helps to explain. The first choice is a true statement--the myth does say that the goddess Minerva punished Arachne, a mortal. But that does not help to explain why the punishment was to turn Arachne into a spider. The third and fourth choices are both conclusions a reader could draw from the myth, but they also do not explain the connection to a spider. Only the second choice connects weaving--Arachne's great skill and the subject of her challenge to the goddess Minerva--and the punishment--Arachne became a spider. Spiders spend all of their time weaving webs, so Arachne does remain a great weaver, but she is punished by being turned into a spider. This makes the second choice the correct answer.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Vocabulary	4	Precision	4.VC.P.1	2

Choose the word or phrase that could best be substituted for the underlined word or phrase in the context of the sentence.

Her face was lit from within with intelligence and good humor.

- A beautiful
- B glowing
- C burning
- D fiery

**RATIONALE**

The correct answer is choice 2. The underlined phrase suggests something positive and attractive. This makes choices 3 and 4 less appropriate than choice 2. Choice 1 is accurate but not as expressive and appropriate as choice 2.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Vocabulary	4	Word Meanings	4.VC.WM.1	2

Choose the phrase that is closest in meaning to the underlined word in the context of the sentence.

My father checked the team roster to make sure I was registered to play on the softball team.

- on a special list
- able to use equipment
- experienced enough
- likely to succeed

**RATIONALE**

The correct answer is Choice A. A team roster is a list of all players eligible to play on the team; the only choice that makes sense in this context is Choice A. None of the other choices has anything to do with a roster.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Vocabulary	4	Word Meanings	4.VC.WM.2	2

Choose the word that is closest in meaning to the underlined word in the context of the sentence.

My dog whined because it was time for her to eat, and she had not been fed since the morning.

- A cried
- B barked
- C sighed
- D growled

**RATIONALE**

The correct answer is Choice A, which is the closest synonym to the underlined word. The definition of the underlined word is a long, high-pitched and complaining cry.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Vocabulary	4	Word Meanings	4.VC.WM.3	2

Choose the word that is most nearly the *OPPOSITE* in meaning to the underlined word in the context of sentence.

The swan glided gracefully along the surface of the lake.

- A awkwardly
- B uncomfortably
- C easily
- D quickly

**RATIONALE**

The correct answer is Choice A. The underlined word describes the movement of a swan in water, and it means attractive and elegant. The only word that conveys the opposite of the underlined word is Choice A.

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Verbal Reasoning	4	Categorical Reasoning	4.VR.CR.1	2

*Which of the following words does NOT belong with the others?*

- (A) Chuckle
- (B) Yawn
- (C) Laugh
- (D) Giggle

**RATIONALE**

The correct answer to this categorical reasoning question is Choice 2. Three of the four choices, 1, 3, and 4 are words that describe responses to something funny or entertaining. Only Choice 2 describes another kind of response.

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Verbal Reasoning	4	Logical Reasoning	4.VR.LR.2	2

(1) Of all the movies currently playing at the mall, this is the best. (2) Very inventive special effects make the movie enjoyable to watch. (3) Everyone I know has been having nightmares after seeing it. (4) In fact, Bill Roberts almost fainted during the climax! (5) Ed Michaels puts on the best performance of his career.

*Which of the following pieces of information is missing from the passage?*

- A The name of the theater
- B The name of one of the movie's actors
- C Whether the movie is scary
- D The reviewer's opinion of the movie

#### **RATIONALE**

This question requires the test taker to identify what is NOT known from the passage. Sentence (5) names one of the actors in the movie. Sentence (3) indicates that Choice 3 is true. Sentence (1) supports Choice 4. The only thing not mentioned in the passage is Choice 1, which is the correct answer.

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Verbal Reasoning	4	Logical Reasoning	4.VR.LR.1	3

(1) Of all the movies currently playing at the mall, this is the best. (2) Very inventive special effects make the movie enjoyable to watch. (3) Everyone I know has been having nightmares after seeing it. (4) In fact, Bill Roberts almost fainted during the climax! (5) Ed Michaels puts on the best performance of his career.

*Which of the following is most likely to occur next?*

- (A) The review's author will begin having nightmares.
- (B) Bill Roberts will see the movie again.
- (C) Ed Michaels will direct a horror picture.
- (D) Ed Michaels will act in another movie.

#### **RATIONALE**

The correct answer is Choice 4. This question requires the test taker to draw a conclusion based on the information given in the passage. There is no information in the passage that would lead logically to Choices 1, 2 or 3. Only Choice 4 is directly and logically connected to the last sentence of the passage.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Verbal Reasoning	4	Logical Reasoning	4.VR.LR.1	3

(1) Of all the movies currently playing at the mall, this is the best. (2) Very inventive special effects make the movie enjoyable to watch. (3) Everyone I know has been having nightmares after seeing it. (4) In fact, Bill Roberts almost fainted during the climax! (5) Ed Michaels puts on the best performance of his career.

Which of the following sentences is *LEAST* relevant to the message of the review?

- A 1
- B 2
- C 4
- D 5

**RATIONALE**

The correct answer is Choice 3. This question requires the test taker to first determine the message of the review, which is stated in Sentence (1). The only choice not connected to this assertion about the quality of the movie is Sentence (4).

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Concepts and Skills	4	Organization	4.WC.O.2	2

*My parents decided to take the whole family to a spring baseball game; \_\_\_\_\_, we did not get to see the game because it started to rain.*

*Which of the following words best completes the sentence?*

- A besides
- B therefore
- C meanwhile
- D however

**RATIONALE**

Choice D is the correct transition for the sentence. Choices A, B, and C are distractors because they do not logically transition the first statement to the second statement.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Concepts and Skills	4	Organization	4.WC.O.3	3

*This is a list of steps for making a ham and cheese sandwich. They are not in the correct order. Decide which is the best order for the sentences listed*

- 1. Put the other piece of bread on top to form a sandwich.*
- 2. Get two pieces of bread, a knife, a slice of ham, and a slice of cheese.*
- 3. Cut the sandwich in half.*
- 4. Place the slices of ham and cheese on one piece of bread.*

A 1, 3, 4, 2

B 3, 1, 2, 4

C 4, 2, 3, 1

D 2, 4, 1, 3

**RATIONALE**

Choice D gives the correct order of the steps in making a ham and cheese sandwich. Choices A, B, and C are ordered incorrectly.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Concepts and Skills	4	Style and Craft	4.WC.SC.1	3

Tony bought some peanuts. He bought them at a little stand. The stand is near the railroad station.

Which of the following is the best way to combine the sentences above?

- A Tony bought some peanuts at a little stand, and it is near the railroad station.
- B Tony bought some peanuts at a little stand near the railroad station.
- C The stand where Tony bought some peanuts is little and is near the railroad station.
- D The little stand near the railroad station which is where Tony bought some peanuts.

#### **RATIONALE**

This question asks students to effectively combine sentences into one logical and clearly worded sentence, without awkward phrasing. Choices A, C, and D all have extra words and sound awkward. Choice B is the only sentence that effectively combines the sentences into one logical, clearly worded sentence.

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Writing Concepts and Skills	4	Supporting Details	4.WC.SD.2	3

*Which of the following sentences makes the best topic sentence for the paragraph?*

*Skin helps keep germs out of the body. It also protects a person from sunlight. This tough, elastic covering also acts like a insulation. It helps the body warm up and cool off.*

- A Skin is the main protection the body has from germs.
- B Skin is much tougher than you might think.
- C Skin and hair both help protect the body.
- D Skin performs a variety of important tasks.

#### **RATIONALE**

##### **Content Category, Supporting Detail/Topic Sentences**

This question asks students to choose the topic sentence that is best supported by the details provided in the rest of the paragraph. The paragraph describes the different ways that skin acts to help the body. Choice D is correct. It is the only choice that links the fact that skin helps the body in many different ways with the ways themselves.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Mechanics	4	Usage	4.WM.U.4	2

In which of the following sentences is the word abrupt used INCORRECTLY?

- Ⓐ The yearly salary increases came to an abrupt halt.
- Ⓑ The lawyer's answer to the question was very abrupt.
- Ⓒ The car made an abrupt turn.
- Ⓓ He abrupt and ran for the door.

#### **RATIONALE**

To choose the correct answer, the reader must recognize that the underlined word in the question is an adjective that means suddenly and without notice or, in the case of human interactions, curt and almost rude. Choices 1, 2 and 3 all use the underlined word correctly in one of these senses.

Choice 4, however, uses the underlined word as a verb to mean a kind of action or reaction. This is the correct choice, because the underlined word cannot be used this way.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Mechanics	4	Usage	4.WM.U.2	2

*Which of the following is the best way to write this sentence?*

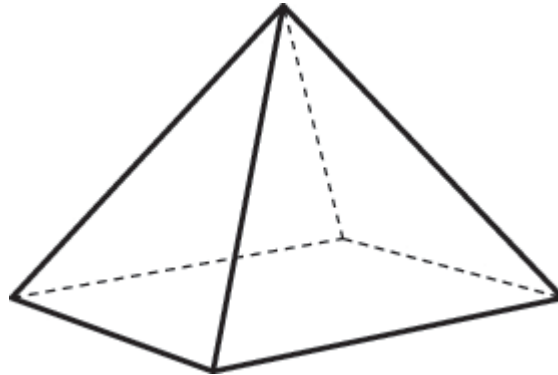
- A Julia steals the ball, dribbled down the court, and scores the winning basket.
- B Julia stole the ball, dribbled down the court, and scored the winning basket.
- C Julia steals the ball, dribbles down the court, and scored the winning basket.
- D Julia stole the ball, dribbles down the court, and scores the winning basket.

**RATIONALE****Content Category, Usage/Parallelism**

Choice B is correct. It is the only choice that properly provides three parallel past tense verbs ("stole, dribbled, and scored") to communicate the action of the sentence.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	5	Geometry and Spatial Sense	5.MA.GS.1	1

A three-dimensional solid is shown.



What is the total number of edges in this solid?

- A 4
- B 5
- C 7
- D 8

**RATIONALE**

To find the number of edges, count each edge only once. There are 8 edges. The correct answer is choice (D).

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	5	Measurement	5.MA.M.4	2

Alfonso drove at an average rate of 76 kilometers per hour for 3 hours. Which of the following expressions represents the total distance Alfonso drove, in kilometers?

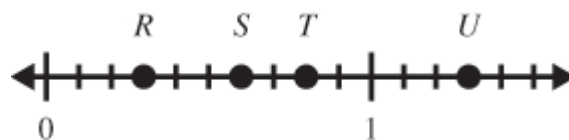
- (A)  $76 + 3$
- (B)  $76 - 3$
- (C)  $76 \times 3$
- (D)  $\frac{76}{3}$

**RATIONALE**

The rate is given as 76 km/hour. The time is 3 hours. To find the distance, use the formula  $d = rt$ , where  $d$  = distance,  $r$  = rate, and  $t$  = time. The correct answer is choice (C).

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	5	Numbers and Number Relationships	5.MA.NNR.3	2

Which of the following points best represents  $\frac{3}{5}$  on the number line below?



- (A) Point R
- (B) Point S
- (C) Point T
- (D) Point U

**RATIONALE**

The correct answer is choice (B). It can be seen that the number line is divided into tenths. Rename the fraction  $\frac{3}{5}$  so the denominator is 10.  $\frac{3}{5} \times \frac{2}{2} = \frac{6}{10}$ . Then, count six sections over from 0. Point S is located at  $\frac{6}{10}$ .

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	5	Numbers and Number Relationships	5.MA.NNR.2	1

$$3^3 =$$

(A) 0

(B) 6

(C) 9

(D) 27

**RATIONALE**

The correct answer is choice (D). Raising 3 to the power of 3 means that 3 is a factor 3 times, so  $3^3 = 3 \times 3 \times 3 = 27$ .

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	5	Probability	5.MA.P.1	2

A bag contains 5 red coins, 7 blue coins, and 6 yellow coins. If one coin is selected from the bag at random, which of the following expressions represents the probability that the coin is NOT red?

(A)  $\frac{1+1}{7+6}$

(B)  $\frac{5}{5+7+6}$

(C)  $\frac{1+1}{1+1+1}$

(D)  $\frac{7+6}{5+7+6}$

**RATIONALE**

The probability that a coin that is not red is selected out of 1 chance is equal to the ratio of the sum of all the coins that are not red to the total number of coins. There are 7 blue coins and 6 yellow coins. The numerator of this ratio is  $7 + 6$ . The total number of coins is  $5 + 7 + 6$ . The denominator of the ratio is  $5 + 7 + 6$ . The correct answer is choice (D).

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	5	Probability	5.MA.P.2	3

A box contains 15 medium-sized T-shirts of different colors, as shown in the table below.

T-SHIRTS IN BOX

Color	Number in Box
Blue	4
Green	3
Orange	8

The T-shirts are randomly mixed in the box. Jasmine will randomly select a group of T-shirts from the box without looking. Jasmine wants to be certain that there will be at least 1 blue T-shirt and 1 green T-shirt in the group she selects. What is the fewest number of T-shirts Jasmine should include in the group she selects?

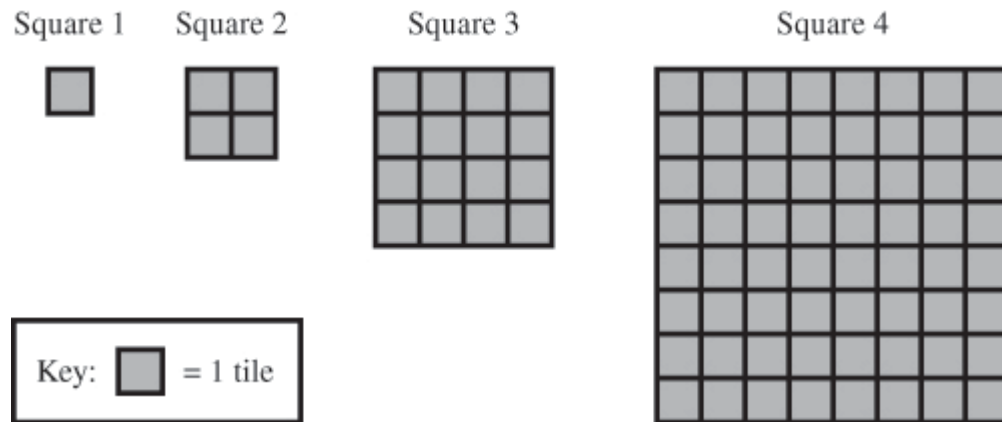
- (A) 7
- (B) 10
- (C) 12
- (D) 13

#### RATIONALE

The correct answer is choice (D). According to the table, there are 4 blue and 3 green T-shirts in the box. To be certain that at least one blue and one green T-shirt are selected, assume that first all 8 orange T-shirts are pulled, then all 4 blue T-shirts are pulled. The next would have to be green.  $8 + 4 + 1 = 13$ .

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	5	Pre-Algebra	5.MA.PA.1	3

The pattern below shows squares made using different numbers of tiles of the same size. Square 1 contains 1 tile, and Square 2 contains 4 tiles.



If this pattern continues as shown, how many more tiles will Square 6 contain than Square 4?

- A 64
- B 256
- C 960
- D 1,024

#### RATIONALE

It can be seen that the side lengths of each square in the pattern double. Square 4 has a side length of 8 and an area of 64 square tiles. Square 5 will have a side length of 16, and Square 6 will have a side length of 32. The area of square 6 is  $32 \times 32 = 1024$ .  $1024 - 64 = 960$ . Choice A gives the area of Square 4. Choice B gives the area of Square 5, and choice D gives the area of Square 6. The correct answer is choice (C).

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	5	Pre-Algebra	5.MA.PA.2	2

An equation and the step Kaleb used to solve the equation are shown below.

$$\text{Equation: } r + 5 = 15$$

$$\text{Step 1: } r + 5 - \boxed{\phantom{00}} = 15 - 5$$

Which of the following numbers should go in the box to make the equation in Step 1 true?

- A 5
- B 10
- C 15
- D 20

**RATIONALE**

In Step 1, Kaleb is subtracting 5 from the right side of the equation. In order to keep the equations equal, he must also subtract 5 from the left side of the equation. The correct answer is choice (A).

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	5	Pre-Algebra	5.MA.PA.3	2

At a movie matinee, tickets cost \$1.50 each. If 12 people had free passes, and the ticket sales totaled \$339.00, how many people attended the movie?

- (A) 214
- (B) 226
- (C) 234
- (D) 238

**RATIONALE**

The correct answer is choice (D). The number of people who attended the movie is the sum of the number of people who had a free pass and the number of people who bought tickets. It is given that ticket sales totaled \$339.00 and each ticket cost \$1.50. Therefore, the number of people who bought tickets is  $\frac{\$339.00}{\$1.50} = 226$ . If 12 people had a free pass, then the number of all the people who attended the movie is  $226 + 12 = 238$ .

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Quantitative Reasoning	5	Analysis	5.QR.A.1	2

$$\triangle = 3$$

$$\square = 4$$

$$\nabla = 5$$

$$\hexagon = 6$$

$$\frac{\square \times \hexagon}{\triangle}$$

$$\frac{\hexagon \times \nabla}{\triangle}$$

Which statement is true?

- A A is greater than B.
- B B is greater than A.
- C A and B are equal.
- D There is not enough information to tell which is greater.

#### RATIONALE

Substituting the shapes in the quantity A expression with the respective values they represent gives  $\frac{4 \times 6}{3} = 8$ . Substituting the shapes in the quantity B expression with the respective values they represent gives  $\frac{6 \times 5}{3} = 10$ . Therefore, quantity B is greater than A. Choice B is correct.

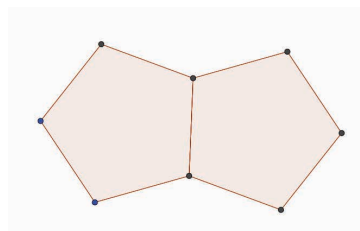
SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Quantitative Reasoning	5	Analysis	5.QR.A.3	2

A game board is constructed by joining two regular pentagonal boards with sides 1 decimeter in length along a common side. What is the perimeter of the game board, in decimeters?

- Ⓐ 5
- Ⓑ 8
- Ⓒ 9
- Ⓓ 10

**RATIONALE**

It is given that both regular pentagons have sides of 1 decimeter in length, so the perimeter of each pentagon is 5 decimeters. When the two boards in the shape of pentagons are joined along a common side, two of the sides are not counted in the perimeter of the new shape formed, as shown in the figure below. Therefore, the perimeter of the game board is  $5 + 5 - 2 = 8$ . Choice B is correct.



SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Quantitative Reasoning	5	Analysis	5.QR.A.1	2

<i>Activity</i>	<i>Calories Used per Kilogram of Body Weight in 1 Hour</i>
<i>Very Active Exercise</i>	6.4
<i>Active Exercise</i>	5.7
<i>Moderate Exercise</i>	3.9
<i>Light Exercise</i>	2.4
<i>Sitting</i>	1.8
<i>Sleeping</i>	0.9

According to the chart above, two hours of sitting uses about as many calories as doing one hour of which of the following types of activity?

- Moderate exercise
- Light exercise
- Active exercise
- Sleeping

**RATIONALE**

According to the chart, the number of calories used in 1 hour of sitting is 1.8, so in 2 hours of sitting, there are  $2 \times 1.8 = 3.6$  calories used. This is close to 3.9 calories, which is the number of calories used during 1 hour of moderate exercise. Choice A is correct.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Quantitative Reasoning	5	Comparison	5.QR.C.1	3

The formula for a certain shade of gray paint calls for a ratio of 3 parts of black paint to 15 parts of white paint.

<p>Quantity A</p> <p>The number of gallons of black paint in 40 gallons of gray paint</p>	<p>Quantity B</p> <p>The number of gallons of white paint in 5 gallons of gray paint</p>
---	--

Which statement is true?






- A is greater than B.
- B is greater than A.
- A and B are equal.
- There is not enough information to tell which is greater.

#### RATIONALE

The ratio of 3:15 of black paint to white paint to make the gray paint can be simplified to 1:5. This means that in every 6 gallons of gray paint, there is 1 gallon of black paint and 5 gallons of white paint. It follows that in 40 gallons of gray paint, there are  $\frac{40}{6} = \frac{36+4}{6} = 6\frac{2}{3}$  gallons of black paint. The number of gallons of white paint in 5 gallons of gray paint must be less than 5. Therefore, quantity A is greater than quantity B. Choice A is correct.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	5	Analysis	5.RC.A.2	3

TYPES OF NESTS

Simple		Complex		
Cavity	Platform	Cup-Shaped	Enclosed	Hanging
				
Built by birds like kingfishers, chickadees, and woodpeckers	Built by birds like eagles, crows, raptors, and water birds	Built by birds like sparrows, finches, and hummingbirds	Built by birds like cactus wrens, magpies, and grebes	Built by birds like kinglets and orioles

**Which Nest Is Best?**

A bird's nest is as unique as the bird that builds it. Birds that live in wooded areas build nests on tree branches or in bushes. Birds that live near water build nests along cliffs, sand dunes, or rocky shores. Nest-building birds use a wide variety of materials for building their homes, taking advantage of objects they can find in the area. A nest may contain twigs, sticks, grass, straw, flowers, moss, leaves, mud, bark, string, cobwebs, strips of paper, and even animal hair. The type of bird and where it lives determine the kind of nest it builds. Depending on how complicated the nest is, it can take a few hours to several weeks to build. There are several different categories of birds' nests.

**Cavity Nests**

A cavity nest is simply a hollow area, often inside a tree trunk. A bird will find a dead tree that has a natural opening or dig a hole in the tree trunk with its beak. A bird could also dig a hole underground and lay its eggs deep inside. Whether a bird uses a tree or the earth, cavity nests are the simplest nests to construct. They typically have a small hole on the outside but are roomy on the inside. This large interior provides sufficient space for a bird to lay eggs and raise its young. Often the bird will line the inside of the cavity with a soft material such as moss or grass to create a warm, cushioned area for its eggs.

**Platform Nests**

A platform nest is another type of simple nest. It is a flat nest that is supported by tree limbs, perched on the edge of a cliff, or built directly on the ground. Obviously, there is no inside or outside; however, the nests often have a dip in the middle. Large birds and water birds build platform nests, and some platform nests as big as six feet in diameter have been discovered.

**Cup-Shaped Nests**

A more difficult nest to build is the cup-shaped nest, which is built using twigs or leaves to create a hard outside, and cobwebs and feathers to provide a softer inside. The cup-shaped nest is the one most people think of as a “typical nest,” because this nest type is built in a wide variety of places and sizes by many different kinds of birds. One of the smallest cup-shaped nests is the size of a quarter.

### Enclosed Nests

An enclosed nest is similar to a cup-shaped nest but is completely round. It looks like a ball or globe with a single opening that serves as a door. Because of the shape, this type of nest offers more protection for birds and their families. They are built in shrubs, trees, or even on the ground. These strong nests are usually made of grasses, twigs, and leaves, but some types of birds even use mud to build them.

### Hanging Nests

Hanging nests are the most fancy of all nests. These sac-like nests hang from tree branches. The entrance to these nests can be at the top, bottom, or side. Hanging nests are made of grass and plant fibers that can bend easily. Birds that build these kinds of nests are often called weavers because each blade of grass is woven in and out during the building process, taking great skill and effort on the part of the bird.

### So Which Nest Is Best?

Wherever a bird chooses to build its nest, it must be a place that is near a food source and is safe from enemies. Although nests are as unique as the birds that build them, all serve the same purposes. The best nest is the one that keeps the bird safe from predators and protects its family.

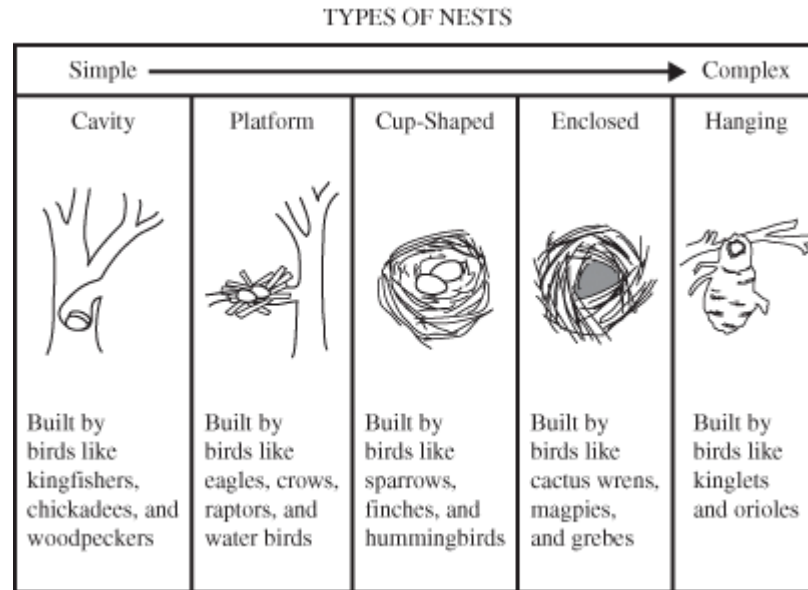
*The author wrote this passage most likely to*

- A tell the reader that any material can be used to build birds' nests
- B teach the reader how to build birds' nests
- C entertain the reader with a story about how different birds build nests
- D inform the reader about different types of bird nests

### RATIONALE

The correct answer to this question is choice D. To figure out the author's purpose in writing something, the reader must think about all of the information in the passage. In this passage, the author divides the information into sections; each section discusses one type of bird nest. The only other information in the passage is an introduction about bird nests and a conclusion, also about birds nests. This makes choice D the most accurate statement of what the author wants to convey to the reader. Choice A is not true--the author does not say this in the passage. In the same way, the author does not try to teach the reader to build a bird nest (choice B), and the way the author describes how birds build different kinds of nests is factual and detailed, but not meant to be entertaining (choice C).

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	5	Analysis	5.RC.A.5	2



### Which Nest Is Best?

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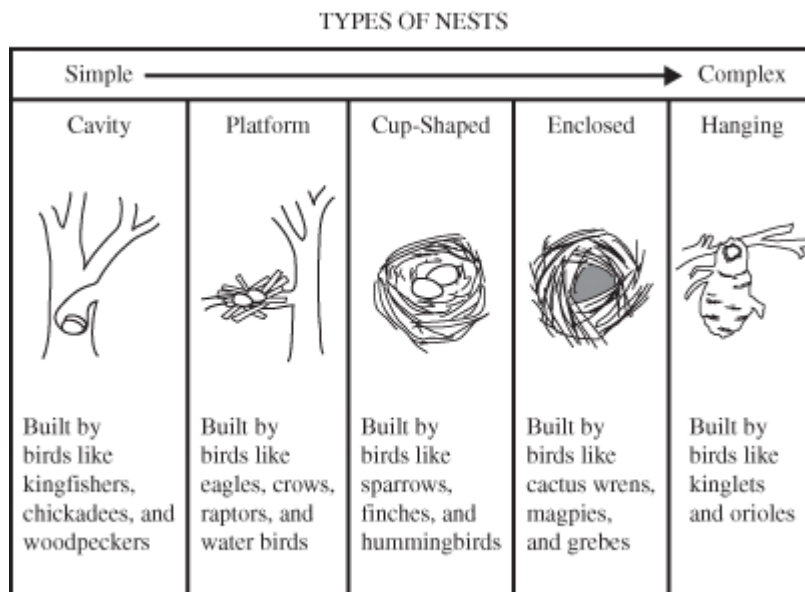
*According to the passage, the nests that people are most familiar with are built by*

- A birds that live on the ground
- B different kinds of birds
- C small birds looking for food
- D birds that live in cities

### RATIONALE

The correct answer to this question is choice B. To answer this question, the reader must first determine which kind of nest the passage says people are most familiar with. In the section entitled “Cup-Shaped Nests,” the second sentence says, “The cup-shaped nest is the one most people think of as a ‘typical nest,’ because this nest type is built in a wide variety of places and sizes by many different kinds of birds.” This sentence not only fits with the question but directly supports choice B. None of the other choices is supported by the passage.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	5	Explicit Information	5.RC.EI.2	2



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### Hanging Nests

Hanging nests are the most fancy of all nests. These sac-like nests hang from tree branches. The entrance to these nests can be at the top, bottom, or side. Hanging nests are made of grass and plant fibers that can bend easily. Birds that build these kinds of nests are often called weavers because each blade of grass is woven in and out during the building process, taking great skill and effort on the part of the bird.

### So Which Nest Is Best?

Wherever a bird chooses to build its nest, it must be a place that is near a food source and is safe from enemies. Although nests are as unique as the birds that build them, all serve the same purposes. The best nest is the one that keeps the bird safe from predators and protects its family.

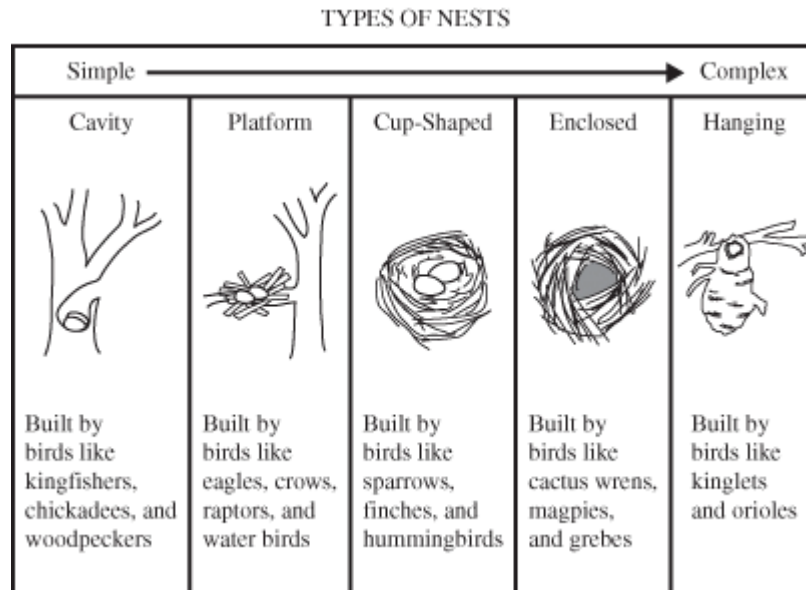
*Hanging nests are made out of materials like*

- A grass
- B twigs
- C mud
- D cobwebs

### RATIONALE

The correct answer to this question is choice A. In the section of the passage entitled “Hanging Nests,” the author says, “Hanging nests are made of grass and plant fibers that can bend easily.” This sentence directly supports choice A. There is no mention of choices C and D, and while choice B might be seen as “plant fiber,” twigs themselves are rigid and do not bend easily in most cases. All of this makes choice A the correct answer.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	5	Inference	5.RC.1.2	3



### Which Nest Is Best?

A bird's nest is as unique as the bird that builds it. Birds that live in wooded areas build nests on tree branches or in bushes. Birds that live near water build nests along cliffs, sand dunes, or rocky shores. Nest-building birds use a wide variety of materials for building their homes, taking advantage of objects they can find in the area. A nest may contain twigs, sticks, grass, straw, flowers, moss, leaves, mud, bark, string, cobwebs, strips of paper, and even animal hair. The type of bird and where it lives determine the kind of nest it builds. Depending on how complicated the nest is, it can take a few hours to several weeks to build. There are several different categories of birds' nests.

#### Cavity Nests

A cavity nest is simply a hollow area, often inside a tree trunk. A bird will find a dead tree that has a natural opening or dig a hole in the tree trunk with its beak. A bird could also dig a hole underground and lay its eggs deep inside. Whether a bird uses a tree or the earth, cavity nests are the simplest nests to construct. They typically have a small hole on the outside but are roomy on the inside. This large interior provides sufficient space for a bird to lay eggs and raise its young. Often the bird will line the inside of the cavity with a soft material such as moss or grass to create a warm, cushioned area for its eggs.

#### Platform Nests

A platform nest is another type of simple nest. It is a flat nest that is supported by tree limbs, perched on the edge of a cliff, or built directly on the ground. Obviously, there is no inside or outside; however, the nests often have a dip in the middle. Large birds and water birds build platform nests, and some platform nests as big as six feet in diameter have been discovered.

#### Cup-Shaped Nests

A more difficult nest to build is the cup-shaped nest, which is built using twigs or leaves to create a hard outside, and cobwebs and feathers to provide a softer inside. The cup-shaped nest is the one most people think of as a “typical nest,” because this nest type is built in a wide variety of places and sizes by many different kinds of birds. One of the smallest cup-shaped nests is the size of a quarter.

### Enclosed Nests

An enclosed nest is similar to a cup-shaped nest but is completely round. It looks like a ball or globe with a single opening that serves as a door. Because of the shape, this type of nest offers more protection for birds and their families. They are built in shrubs, trees, or even on the ground. These strong nests are usually made of grasses, twigs, and leaves, but some types of birds even use mud to build them.

### Hanging Nests

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### So Which Nest Is Best?

Wherever a bird chooses to build its nest, it must be a place that is near a food source and is safe from enemies. Although nests are as unique as the birds that build them, all serve the same purposes. The best nest is the one that keeps the bird safe from predators and protects its family.

*Why do large birds most likely build platform nests?*






- A Large birds fly higher than small birds.
- B Large birds are less attracted to shaded areas.
- C Large birds need more space for their nests.
- D Large birds eat more than small birds.

### RATIONALE

The correct answer to this question is choice C. The section of the passage entitled “Platform Nests” ends with this sentence: “Large birds and water birds build platform nests, and some platform nests as big as six feet in diameter have been discovered.” This is the only mention of large birds in the passage, so the reader has no information about choice A or choice B. While choice D seems likely, the passage does not give the reader any information about this. It does make sense, however, that large birds would need more space for their nests because they must lay eggs, incubate them, and then raise the baby birds in those nests.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	5	Inference	5.RC.1.2	3

TYPES OF NESTS

Simple		Complex		
Cavity	Platform	Cup-Shaped	Enclosed	Hanging
				
Built by birds like kingfishers, chickadees, and woodpeckers	Built by birds like eagles, crows, raptors, and water birds	Built by birds like sparrows, finches, and hummingbirds	Built by birds like cactus wrens, magpies, and grebes	Built by birds like kinglets and orioles

**Which Nest Is Best?**

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### So Which Nest Is Best?

Wherever a bird chooses to build its nest, it must be a place that is near a food source and is safe from enemies. Although nests are as unique as the birds that build them, all serve the same purposes. The best nest is the one that keeps the bird safe from predators and protects its family.

*Why do some birds most likely spend time building hanging nests?*

- A They are sturdier in bad weather.
- B They are easier for the mother bird to find.
- C They are prettier than other types of nests.
- D They are harder for other animals to reach.

### RATIONALE

The correct answer to this question is choice D. In the section of the passage entitled “Hanging Nests,” the author says that this kind of nest hangs from tree branches. This fact suggests that these nest are often located high above the ground. Since birds must be concerned about enemies that might want to capture them or the eggs and baby birds, it makes sense that a nest high up would be harder for animals--and, thus, the enemies of the birds--to reach. There is no suggestion that choices A, B, or C are accurate statements in regard to the hanging nests.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Vocabulary	5	Precision	5.VC.P.1	2

If used in a sentence, which of the following words would *LEAST* likely refer to an emotional reaction?

- A Elation
- B Sensation
- C Dismay
- D Anger

**RATIONALE**

The correct answer is choice 2, which is the only word that does not name an emotion. It is a word that means "feeling" of any kind, including physical sensation like hot and cold, as well as emotional sensations. Choices 1, 3 and 4 are all words that name particular emotional reactions.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Vocabulary	5	Precision	5.VC.P.1	2

Choose the pair of words that most precisely fit into the blanks in the context of the sentence.

Countless people have been \_\_\_\_\_ by the rude and \_\_\_\_\_ behavior of cell phone users in public places.

- (A) angered ... deceptive
- (B) bothered ... intrusive
- (C) shocked ... flashy
- (D) muted ... hateful

#### **RATIONALE**

The correct answer is Choice B. While Choices A, B, or C have initial words that could be appropriate for the first blank in the sentence, only Choice B has a word that will work in the second blank of the sentence. The problem people encounter with cell phone users is that their conversations intrude on the privacy of other people and make lots of noise in many cases. Only Choice B has a word that conveys this meaning.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Vocabulary	5	Word Meanings	5.VC.WM.1	2

Choose the word or phrase that could best be substituted for the underlined phrase without changing the meaning of the sentence.

Have you ever feasted on chocolate-covered ants? It is true, "One person's meat is another person's poison." Believe it or not, in some regions they are considered not at all unappealing.

- A expensive
- B insects
- C healthy
- D a delicacy

#### RATIONALE

The correct answer is Choice 4. The question asks for a word or phrase that could be substituted without changing the meaning of the sentence. In the context of the three sentences, the third sentence means that people consider chocolate-covered ants something good to eat. There is no indication that they are considered expensive (Choice 1) or healthy (Choice 3). Choice 2 does not make logical sense in the context of the three sentences, or in a more general sense, since ants actually are insects, not just considered insects.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Vocabulary	5	Word Meanings	5.VC.WM.3	2

*Her humility was her most noticeable attribute.*

*Her ----- was her most noticeable attribute.*

*Which of the following words makes the second sentence mean the OPPOSITE of the first sentence above?*

- A cowardice
- B humbleness
- C pride
- D greed

**RATIONALE**

The correct answer is Choice 3. "Pride" means a high opinion of one's own importance. "Humility" means a modest view of one's importance. Choice 1 means not being brave. Choice 2 is a synonym for humility. Choice 4 means an intense and selfish desire for something.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Verbal Reasoning	5	Analogical Reasoning	5.VR.AR.2	2

*["doctor" is to "heal"] as ["firefighter" is to "extinguish"]*

*The terms in each set of brackets above are related mainly because they describe*

- A person to place of work
- B person to common opponent
- C person to usual action
- D person to character trait

#### **RATIONALE**

Choice C is correct because a doctor is someone who is expected to heal people, just as a firefighter is someone who is expected to extinguish fires. Choices A, B, and D are incorrect because they do not accurately describe the relationship in each of these analogies.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Verbal Reasoning	5	Categorical Reasoning	5.VR.CR.2	2

*Which of the following words is the best heading for the others?*

- A virtue
- B kindness
- C patience
- D trust

**RATIONALE**

Choice A is correct because kindness, patience, and trust are examples of different virtues. Choices B, C, and D are incorrect because none of them is a general term that comprises the other three terms.

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Verbal Reasoning	5	Logical Reasoning	5.VR.LR.1	2

*The city library is open from 10 a.m. to 8 p.m. during the week. On Saturday, the library closes two hours earlier, and it is closed on Sundays. Mitchell needs to check out some books from the library for a project he is doing for school. Since Mitchell participates in after-school activities every day, his mother took him to the library at 6:30 p.m. on Saturday to check out the books.*

*Which of the following conclusions can best be drawn from the information above?*

- Ⓐ Mitchell will not be able to participate in his after-school activities this week.
- Ⓑ Mitchell will not be able to check out the books that he needs on Saturday.
- Ⓒ Mitchell is usually able to go to the library on Mondays through Fridays.
- Ⓓ Mitchell is likely to finish his project before he goes to school on Monday.

**RATIONALE**

Choice B is correct because Mitchell arrived at the library after it closed at 6 p.m. on Saturday. Choices A and C are incorrect because neither of them is supported by the information provided. Choice D is incorrect because the library will not open again before Mitchell goes to school on Monday.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Verbal Reasoning	5	Logical Reasoning	5.VR.LR.2	3

*Josie and her family are camping at the state park. Josie's father is always in charge of lighting the fire in the fire pit, and the children always gather the wood. One evening, Josie's father has a difficult time starting the fire; but eventually he gets it started. If the smoke from the fire keeps moving in different directions, then it is most likely that*

- A the fire was not built correctly.
- B Josie's father does not know the fire-safety rules for the park.
- C there is a swirling wind in the park.
- D the children have not collected enough wood for the fire.

**RATIONALE**

Choice C is correct because a swirling wind would cause the smoke to move in different directions. Choices A, B, and D are incorrect because none of them is related to the smoke moving in different directions.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Concepts and Skills	5	Organization	5.WC.O.3	3

*This is a list of major topics in a report on the Han dynasty of China. They are not in sequential order.*

- 1. Han engineers were the first to use iron-tipped bamboo poles for drilling.*
- 2. The Han Dynasty existed in a time of artistic creativity, practical inventions, and medical advances.*
- 3. Han doctors invented the use of needles for healing.*
- 4. Han artists created bronze belts, jade jewelry, and glazed pottery.*

*Which of the following shows the topics arranged in sequential order?*

- A 3, 1, 4, 2
- B 1, 3, 2, 4
- C 3, 4, 1, 2
- D 2, 4, 1, 3

#### **RATIONALE**

This question asks students to arrange a list of topics for a report on the Han dynasty of China in the correct order. Since reports often are put together by broad to specific, the student must arrange the topics so that this list begins with the broader topic and continues with the more specific topic. Choice D is the only option that begins with the broad topics of artistic creativity, practical inventions, and medical advances and then proceeds to more specificity in the same order as noted in sentence 2. Therefore, D is the correct answer.

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Writing Concepts and Skills	5	Organization	5.WC.O.2	2

Choose the word that best completes the sentence.

You should learn how to wash your own clothes before you go to college; -----, you should learn to cook a few basic dishes.

- additionally
- because
- nonetheless
- however

#### **RATIONALE**

The correct answer to this question is choice A. This sentence has two independent clauses that are linked by the word in the blank. The first clause is about learning to do laundry, and the second clause is about learning to cook. The only choice that makes a possible connection between these two different activities is choice A. Choice B suggests that the first clause explains the second clause. Choices C and D each suggest that the second clause is a qualification or limitation of the first clause.

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Writing Concepts and Skills	5	Style and Craft	5.WC.SC.2	3

*Which of the following sentences best states the idea?*

- An old superstition is that throwing salt over your left shoulder will bring you good luck.
- For bringing good luck, an old superstition is throwing salt over your left shoulder.
- Throwing salt over your left shoulder will bring you good luck from an old superstition.
- It is an old superstition for bringing good luck that salt should be thrown over your left shoulder.

**RATIONALE**

This question asks students to determine which statement is the most logical and concise, without wordiness or awkward phrasing. Choices B, C, and D are all awkward and wordy. Only choice A provides a logical, clearly worded statement: "An old superstition is that throwing salt over your left shoulder will bring you good luck."

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Mechanics	5	Capitalization	5.WM.C.3	1

Choose the capitalization error in the sentence, if there is one. If there is no error, choose the words "No error."

Dean spoke with Mr. Lin and dr. Jones about the biology experiment. No error

A                  B                  C                  D

- A
- B
- C
- D

**RATIONALE****Content Category, Capitalization**

Choice B is the correct choice. The title "Dr." should always be capitalized. Choice A is an incorrect choice. The title "Mr." should always be capitalized. Choice C is an incorrect choice. The common noun "biology" should not be capitalized. Choice D is incorrect. There is an error at Choice B.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Mechanics	5	Spelling	5.WM.S.1	1

The ----- dog was captured and taken to the animal shelter.

What is the correct spelling of the missing word in the sentence above?

- A looce
- B loce
- C lose
- D loose

**RATIONALE****Content Category, Spelling**

Choice 4 is the correct choice. The correct spelling of the word is "loose." Choices 1, 2, and 3 are misspelled.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Mechanics	5	Usage	5.WM.U.3	2

*Which of the following sentences expresses the idea most clearly and logically?*

- A Before she turned to the board, the note would not have been slipped to me by Karen before Ms. Phillips caught her.
- B If Karen had waited until Ms. Phillips turned to the board, she could have slipped me the note without being caught.
- C Karen did not wait until Ms. Phillips turned to the board to slip me the note but Ms. Phillips would have caught her.
- D Had Karen waited to slip me the note until Ms. Phillips had turned to the board, also she was caught.

#### **RATIONALE**

##### **Content Category, Usage/Modification**

Choice B is correct. It provides a dependent clause ("If Karen . . . the board") that logically modifies the subject of an independent clause ("she") to indicate that Karen should have waited until her teacher turned around before she passed the note. Choices A, C, and D do not provide logical modification, making it unclear who "she" is, when Karen passed the note, or when Ms. Phillips would have caught Karen.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Mechanics	5	Usage	5.WM.U.4	2

Which of the following sentences contains an error in word choice?

- A The little statue is a copy of an ancient idol.
- B Amanda always worships the latest teen idol.
- C The machine remained idle in the garage.
- D Who removed the idol from the exhibit?

### RATIONALE

#### Content Category, Usage/Diction

Choice C is the correct choice. The word "idol" is not appropriate in this context. The word "idle," which in this context means not in use or operation, should be used instead. In Choice A, the word "idol," meaning an object of worship, is used appropriately. In Choice B, the word "idol," meaning one that is adored, is used appropriately. In Choice D, the word "idol," meaning an object of worship, is used appropriately.

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Mathematics Achievement	6	Numbers and Number Relationships	6.MA.NNR.1	2

*At the beginning of the day, a restaurant owner has \$200.00 in the cash register. At the end of the day, there is a total of \$1,355.00 in the cash register. This includes money collected as 5 percent sales tax on all meals and sales. How much money must the owner turn in to the government as sales tax for that day?*

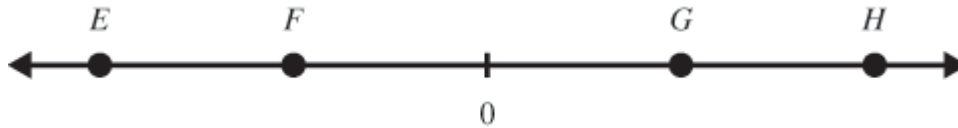
- Ⓐ \$50.00
- Ⓑ \$55.00
- Ⓒ \$57.75
- Ⓓ \$59.75

**RATIONALE**

Subtracting the initial amount of money the owner had in the register, \$200.00, from the total at the end of the day, \$1,355.00, gives the combined amount of the cost of meals and the 5% sales tax on all the meals. Let  $x$  be the cost of the meals. Since  $\$1,355 - \$200 = \$1,155$ , it follows that  $x + 0.05x = 1,155$ , which can be rewritten as  $1.05x = 1,155$ . Dividing both sides of the equation by 1.05 yields  $x = 1,100$ . Calculating the 5% sales tax on this amount gives \$55.00. Choice B is correct.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	6	Numbers and Number Relationships	6.MA.NNR.3	2

The graph of points  $E$ ,  $F$ ,  $G$ , and  $H$  is shown below.



Which of the following statements is true?

- (A) Point  $H$  represents a negative value that is greater than the value represented by point  $G$ .
- (B) Point  $E$  represents a positive value that is greater than the value represented by point  $F$ .
- (C) Point  $E$  represents a negative value that is less than the value represented by point  $G$ .
- (D) Point  $H$  represents a positive value that is less than the value represented by point  $F$ .

**RATIONALE**

Because point  $E$  lies to the left of 0,  $E$  is negative. Because point  $G$  lies to the right of 0,  $G$  is positive. All negative numbers are less than positive numbers. The answer is C.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	6	Probability	6.MA.P.1	2

A certain game is played with a deck of 30 cards made up of 10 cards in each of 3 colors—red, yellow, and blue. The cards of each color are numbered from 1 to 10. What is the probability that a card drawn at random from the deck is red or has the number 9 on it?

- A  $\frac{1}{30}$
- B  $\frac{10}{30}$
- C  $\frac{12}{30}$
- D  $\frac{13}{30}$

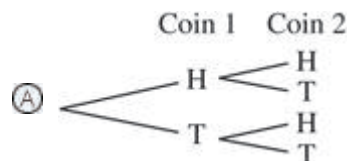
**RATIONALE**

Since the 30 cards are divided equally into 3 colors, the probability that a card drawn at random is red is  $\frac{1}{3}$ . There are 3 cards in the deck that have number 9 on them, so the probability that a card drawn at random from the deck has the number 9 on it is  $\frac{1}{10}$ . However, the two events, selecting a red card and selecting a card that has number 9 on it, overlap. There is 1 card in the deck that satisfies both: is red and has the number 9 on it. Therefore, the probability that a card drawn at random from the deck is red or has the number 9 on it is  $\frac{1}{3} + \frac{1}{10} - \frac{1}{30}$ , which can be rewritten as  $\frac{10}{30} + \frac{3}{30} - \frac{1}{30}$ . This is equal to  $\frac{12}{30}$ . Choice C is correct.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	6	Probability	6.MA.P.2	2

If two fair coins are tossed, what is the probability that the outcome will be two heads?

Which of the following data presentations does NOT fit the problem above? (Note: H stands for head; T stands for tail.)



(Coin 1, Coin 2)

- (B)
- (H, H)
  - (H, T)
  - (T, H)
  - (T, T)

(C)

Coin	Result			
1	H	H	T	T
2	H	T	H	T

(D)

	Head	Tail
Head	Coin 1	Coin 1
Tail	Coin 2	Coin 2

### RATIONALE

The problem asks to identify the model that does not represent the possible outcomes of the probability experiment described. The tree diagram in choice A represents the two possible results for the first coin toss, and then all the possible results for the second coin toss given the results of the first coin toss. This is an accurate presentation of all the possible outcomes of the experiment. The list of the ordered pairs in choice B represents all the possible outcomes of tossing two fair coins. The table in choice C also accurately represents all the possible combinations of the coin 1 and coin 2 results. Answer choice D is a two-way table, the headers of which are the possible outcomes of tossing a coin. However, the cell content of the table does not make sense. For example, the first cell that corresponds to Head and Head is marked as Coin 1. Therefore, choice D is correct.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	6	Statistics	6.MA.S.2	2

A set of numbers is shown below.

$\{10, 10, 20, 30\}$

A value of 40 will be added to the set of numbers. Which of the following statistical measures of the set of numbers will NOT change?

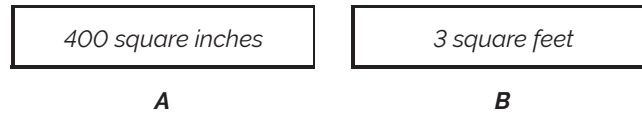
- A Mean
- B Median
- C Mode
- D Range

**RATIONALE**

The mode for the data set will remain 10 even after adding 40 to the set, since 10 occurs the most times. The answer is C.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Quantitative Reasoning	6	Comparison	6.QR.C.3	3

1 foot = 12 inches



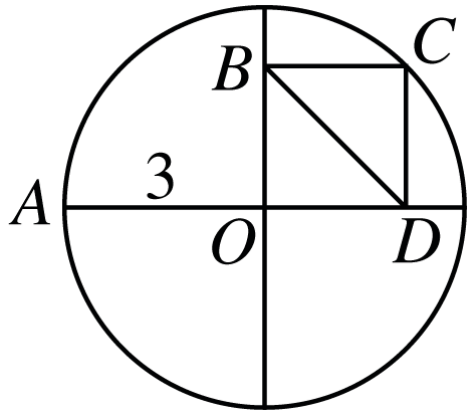
Which statement is true?

- A A is greater than B.
- B B is greater than A.
- C A and B are equal.
- D There is not enough information to tell which is greater.

#### **RATIONALE**

Since 1 foot = 12 inches, 1 square foot =  $12^2 = 144$  square inches. This means that a measurement of 3 square feet is equivalent to  $3 \times 144 = 432$  square inches. Therefore, the quantity in column B is greater than quantity in column A. Choice B is correct.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Quantitative Reasoning	6	Extensions/Generalizations	6.QR.EG.2	3



In the figure above,  $O$  is the center of the circle, and  $OBCD$  is a square. If the length of segment  $AO = 3$ , what is the length of segment  $BD$ ?

- Ⓐ 1.5
- Ⓑ 2.0
- Ⓒ 3.0
- Ⓓ 4.5

**RATIONALE**

Since  $OBCD$  is a square, the diagonals have the same length. So  $BD = OC$ . It is given that  $OA = 3$ . Since  $OC$  and  $OA$  are both radii of the circle shown,  $OC = OA = 3$ . It follows that  $BD = 3$ . Choice C is correct.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Quantitative Reasoning	6	Extensions/Generalizations	6.QR.EG.3	2

<u>Stage</u>	<u>Number of People Called</u>
1	30
2	90
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

A planning committee asked 10 people to call three people each to tell them about a meeting. The people called by the original 10 people were also asked to call 3 people each and to ask those people to call 3 people each, and so on. If everyone followed the procedure and no one was called twice, how many stages of calling would occur before a total of at least 2,000 calls had been made?

- 5
- 6
- 7
- 8

#### RATIONALE

From one stage to the next, the number of people called increases by a factor of 3. First, there were  $10 \times 3 = 30$  people called, next  $10 \times 3^2 = 90$  were called, then  $10 \times 3^3 = 270$  were called, and so on. The power of 3 for which  $10 \times 3^n$  is 2000 or greater must be determined. The 4th power results in 810 and the 5th in 2430. So, 5 stages of calling must occur in order to have at least 2,000 calls made. Thus, Option A is correct.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Quantitative Reasoning	6	Extensions/Generalizations	6.QR.EG.1	2

Together James and Shannon have \$39.50. If James had \$2.50 more, he would have twice as much money as Shannon. How much money does Shannon have?

- A \$12.33
- B \$14.00
- C \$16.50
- D \$25.50

**RATIONALE**

If  $s$  represents the amount of money Shannon has, then James has  $2s - 2.50$ ; and together they have \$39.50, so  $s + 2s - 2.50 = 39.50$ . Simplifying gives  $3s = 42$ , and then  $s = 14$ . Therefore, Option B is correct.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	6	Analysis	6.RC.A.5	3



#### Real Art

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- 2 Anthony looked across the table at Gabe. "Are you growling?"
- 3 Gabe kept his head down, staring at his paper. Maybe growling was a strange thing to do, but it best expressed how Gabe was feeling in art class that day.
- 4 Anthony didn't understand Gabe's frustration.
- 5 "I can't make this," Gabe said, poking his paper, "look like that!" He pointed stiffly at the props in the middle of the table and continued, "Instead of flowers and an old shoe, I just have a jumble of lines!"
- 6 Anthony craned his head around to see Gabe's paper. He opened his mouth to respond, but Ms. Alvarez drifted over. "Now, Gabe," she said, "don't give up. Just make sure to start with your horizon line, add in a vertical element from the flowers, and then go from there." She drifted away to another table.
- 7 Gabe stared at her back. "She probably thinks I'm just not trying," he said, bitterly.
- 8 "Well," Anthony said, "you're growling in class. Of course you're trying."
- 9 Gabe shook his head. "No matter how hard I try, I can't make my drawings look real, not like yours."
- 10 Anthony had a real talent for art, and everyone knew it. Ms. Alvarez looked like she wanted to break into song every time he turned in an assignment.
- 11 "Haven't you ever seen anything by that famous artist Picasso?" Anthony asked. Ms. Alvarez looked up from her desk, and Anthony lowered his voice. "His stuff is all twisted and strange," he whispered. "It doesn't look real at all, so I don't think you have to be good at sketching to be a good artist."
- 12 "I'm sure sketching helps, though," Gabe said in a gloomy voice.
- 13 Anthony was quiet for a while as he shaded the side of a flower with a thick black pencil. Then he used crosshatching, a pattern made by drawing a series of crossed lines, to add texture to the old shoe. "Hey, Gabe," he said finally, "remember that art camp I went to last summer? Want to know which class I was horrible at?"
- 14 Gabe stared at his friend. Anthony was never horrible at anything in art. "Ummm . . . quilting?"
- 15 Anthony snorted. "No, it was a class on cartooning, drawing comic strips. Comics kind of like this." He reached a long arm over to Gabe's binder and tugged out a scrap of paper.

- 16 Gabe glanced at the paper; it was something he'd doodled in math after finishing the problems on the board. The drawing was of a stick figure thinking about equations so hard he didn't see that he was about to step off a cliff. As Gabe looked at his old sketch, the corner of his mouth quirked upwards into half a smile. When he had shown it to Anthony in math class, Anthony had laughed so hard that Mr. Holman had scolded them both. Of course, after Mr. Holman had seen the doodle, he had laughed too, even though he pretended to cough. Then Mr. Holman gave Anthony and him extra math problems to do.
- 17 "Those doodles are just for fun," Gabe said. "They're not real art."
- 18 "Look, real art can be fun too," Anthony insisted, "and it's okay if your drawing of an old shoe doesn't look like my drawing of an old shoe. Life would be boring if everyone made the same art."
- 19 Gabe looked at his sketch and then at the doodle. He changed the curve of the vase in the sketch to make it irregular, more like one of his doodles. It did not look like the real vase, but Gabe decided it looked fine. He borrowed one of Anthony's special pencils and settled down to work.

*Based on the passage, the reader can conclude that Anthony is*

- A older than Gabe
- B a better student than Gabe
- C a good friend to Gabe
- D funnier than Gabe

#### **RATIONALE**

The correct answer to this question is choice C. The reader has to draw conclusions from the entire passage to choose the correct answer. Anthony is concerned about Gabe's feelings, as the reader sees when he gives Gabe an example of something Gabe does better than Anthony (drawing cartoons). This topic involves a story from Gabe and Anthony's math class, which gives further evidence of their friendship. The only choice that fits what the reader learns about Gabe and Anthony in this passage is choice C; the reader has no information to support the other choices.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	6	Analysis	6.RC.A.5	2



#### Real Art

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*Anthony knows that Gabe can do well on the art assignment because*

- A he will show Gabe how to shade
- B he knows that Gabe will try his best
- C he has seen Gabe draw before
- D he tells Gabe about a famous artist

### **RATIONALE**

The correct answer to this question is choice C. In paragraphs 15 and 16, the reader learns that Gabe draws cartoons that are so funny they get both boys in trouble with their math teacher--and even he has to hide his laughter when he sees Gabe's cartoons. From this Anthony clearly knows that Gabe can draw. This is the only choice that makes sense in the context of this question. Choices A and B might be true and choice D is true, but none of them will explain how Anthony knows that Gabe can do well on the art assignment. Only choice C gives Anthony evidence that Gabe can actually do a good job on the art assignment.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	6	Analysis	6.RC.A.2	3



#### Real Art

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*The author wrote this passage most likely to*

- A teach the reader about various art techniques for students
- B entertain the reader with a lesson a student learns
- C persuade the reader to take professional art lessons
- D show the reader that there are different types of art

#### **RATIONALE**

The correct answer to this question is choice B. This question asks the reader to determine the purpose of the passage, and that kind of question requires the reader to think about the entire passage and what it is about. In this case, the whole passage is about the interactions between Gabe and Anthony in art class, and Anthony's efforts to get Gabe to see art differently. By the end of the passage, Gabe is not so discouraged after all, because he believes Anthony is right about his observation that cartooning is a kind of art, and all art does not need to be alike. This is a lesson for Gabe, and that is what the author was attempting to convey in this passage. The author does not talk about choice A or choice C, and while Anthony does tell Gabe that choice D is true, this is not why the author wrote this passage.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	6	Inference	6.RC.I.1	3



#### Real Art

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*At the beginning of the passage, Gabe can best be described as*

- A nervous
- B discouraged
- C confused
- D sad

#### **RATIONALE**

The correct answer to this question is choice B. At the beginning of the passage, Gabe growls and Anthony looks up to see what is wrong. Paragraph 3 says, "Gabe kept his head down, staring at his paper. Maybe growling was a strange thing to do, but it best expressed how Gabe was feeling in art class that day." In paragraph 4 the passage says that Anthony does not really understand why Gabe is frustrated. These two paragraphs together give the reader the information that support choice B as the correct answer. Gabe growls at his art paper because he can't make the picture look right. None of the other choices accurately express what Gabe is feeling as it is described in the passage.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	6	Inference	6.RC.I.1	3



#### Real Art

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*Which of the following characters undergoes a change in the passage?*

- A Mr. Holman
- B Gabe
- C Ms. Alvarez
- D Anthony

#### **RATIONALE**

The correct answer to this question is choice B. The reader has only one direct experience of the persons mentioned in choice A and choice C, so there is no evidence available for change. Anthony appears throughout the passage along with Gabe, but it is Gabe who goes from growling with discouragement to getting to work on his picture at the end of the passage.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	6	Inference	6.RC.I.1	3



#### Real Art

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*Mr. Holman most likely pretends to cough while laughing because he does NOT want*

- (A) the boys to think that he is angry
- (B) to interrupt the other students
- (C) the students to do more problems
- (D) to encourage the behavior of the boys

#### **RATIONALE**

The correct answer to this question is choice D. Mr. Holman is punishing Gabe and Anthony for laughing in math class, but when he sees Gabe's cartoon he can't help laughing. At the end of paragraph sixteen, the passage says, "Of course, after Mr. Holman had seen the doodle, he had laughed too, even though he pretended to cough." But because the boys had misbehaved in class, Mr. Holman does not want to encourage them, so he hides his laughter. None of the other choices explain Mr. Holman's behavior.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Vocabulary	6	Application	6.VC.A.1	2

The scourge of the fourteenth century, bubonic plague, still occurs in the world today, though to a lesser extent than previously. Transmitted by fleas, the disease spread rapidly during the Middle Ages through areas infested by rats. The fleas jumped from the rats to humans, and victims died within a day or so after being infected.

Often whole villages were wiped out by this terrible killer. Historians speculate that about 40 percent of Europe's population succumbed to the plague of 1348–1351. Today, antibiotics usually cure the disease; however, occasionally someone bitten by an infected flea dies of the plague before receiving medical treatment.

*In the first paragraph in the passage, the word scourge most nearly means*

- (A) symptom
- (B) condition
- (C) threatened breakdown
- (D) cause of affliction

#### **RATIONALE**

The correct answer is Choice 4. The first paragraph indicates that the correct answer must be something connected to the fourteenth century and something that is extremely dangerous to humans. Choices 1 and 2 are both general words that could refer to bubonic plague as a disease, but do not fit the first phrase connecting the word to the fourteenth century. Choice 3 does not make sense in the context of the first paragraph, which describes the effects of a terrible disease but says nothing about a threatened breakdown of anything.

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Vocabulary	6	Application	6.VC.A.3	3

The scourge of the fourteenth century, bubonic plague, still occurs in the world today, though to a lesser extent than previously. Transmitted by fleas, the disease spread rapidly during the Middle Ages through areas infested by rats. The fleas jumped from the rats to humans, and victims died within a day or so after being infected.

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Which of the following does NOT suggest the same tone as the words infested by in the first paragraph in the passage?

- Ⓐ swarming with
- Ⓑ teeming with
- Ⓒ colonized by
- Ⓓ overrun by

**RATIONALE**

The correct answer is Choice 3. The underlined words have a negative connotation in general and, in this passage, are connected to rats. The only choice that does not have a negative connotation is choice 3.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Vocabulary	6	Precision	6.VC.P.1	3

The scourge of the fourteenth century, bubonic plague, still occurs in the world today, though to a lesser extent than previously. Transmitted by fleas, the disease spread rapidly during the Middle Ages through areas infested by rats. The fleas jumped from the rats to humans, and victims died within a day or so after being infected.

Often whole villages were wiped out by this terrible killer. Historians speculate that about 40 percent of Europe's population succumbed to the plague of 1348–1351. Today, antibiotics usually cure the disease; however, occasionally someone bitten by an infected flea dies of the plague before receiving medical treatment.

*Which of the following possible replacements for the word speculate in the second paragraph in the passage would imply a more scientific tone?*

- A consider
- B theorize
- C guess
- D think

#### **RATIONALE**

Choice 2 is the correct answer. The question asks for a word that has two characteristics: it could be substituted for the underlined word and it would suggest a more scientific tone than that word does. The only choice that has a scientific connotation is Choice 2. The other choices are all general words without scientific overtones. Choices 3 and 4 are synonyms of the underlined word, while Choice 1 is not correct as a substitute in context.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Vocabulary	6	Word Meanings	6.VC.WM.2	2

Choose the word closest in meaning to the underlined word.

We really enjoyed our drive through the Salinas River valley. The fields were covered with verdant vegetation.

- A elaborate
- B flowering
- C green
- D varied

#### **RATIONALE**

This question asks for synonym of the underlined word. The word "verdant" means "bright green, like grass or other vegetation." Choice 2 fits into the sentence, but it is not a synonym for the underlined word. Choice 3 is the closest word to "verdant," and it is the correct answer.

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Verbal Reasoning	6	Analogical Reasoning	6.VR.AR.1	2

**TIDE : SURGE ::**

- (A) road : travel
- (B) wind : gust
- (C) bulb : switch
- (D) surf : wave

**RATIONALE**

Choice B is correct because a surge refers to a strong increase in the movement of the tide, just as a gust refers to a strong increase in the movement of the wind. Choices A, C, and D are incorrect because none of them shares this relationship.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Verbal Reasoning	6	Analogical Reasoning	6.VR.AR.2	2

*["scoundrel" is to "villain"] as ["proprietor" is to "owner"]*

*Which of the following words or phrases best expresses the relationship between the two words in each set of brackets?*

- A antonyms
- B object to purpose
- C cause to effect
- D synonyms

**RATIONALE**

Choice D is correct because “scoundrel” and “villain” are synonymous, just as “proprietor” and “owner” are synonymous. Choices A, B, and C are incorrect because none of them accurately characterizes the relationship between the two terms in each set of brackets.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Verbal Reasoning	6	Categorical Reasoning	6.VR.CR.1	2

Which of the following words does *NOT* belong with the others?

- A Tournament
- B Stadium
- C Arena
- D Theater

**RATIONALE**

Choice A is correct because choices B, C, and D are examples of places where artistic or sporting events are held, whereas tournament refers to a series of contests in which a number of contestants compete.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Verbal Reasoning	6	Logical Reasoning	6.VR.LR.1	2

*If a country makes it illegal to import peanuts and other legumes, and if all beans are considered legumes, then*

- A peanuts are considered beans
- B the country does not grow legumes
- C legumes are an unusual variety of peanut
- D beans should not be imported into the country

**RATIONALE**

Choice D is correct because it follows logically from the two conditions that are provided. Choices A and C are incorrect because neither statement is supported by the information provided. Choice B is incorrect because, while importing legumes has been made illegal, we are not told anything about this country's laws about growing its own legumes.

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Writing Concepts and Skills	6	Purpose, Audience, Focus	6.WC.PAF.2	3

*The Smith County Bake Sale was a success yesterday. About 1,300 people were there to buy homemade bread, cakes, and pies from local bakeries. The event raised \$3,540 for the Smith County Humane Society. The money will help provide food and medicine for animals at the shelter. Those wishing to make a donation or adopt a pet may contact the shelter at 800-290-5992.*

*This passage is most likely from*

- (A) an advertisement
- (B) a speech
- (C) an encyclopedia entry
- (D) a newspaper article

#### **RATIONALE**

This question asks students to identify the most likely source of an excerpt. The excerpt offers facts about an event in the past tense, indicating that the event has already occurred, which would be appropriate for an encyclopedia entry or a newspaper article. It also includes information for how to contribute to or make use of the charity, whose services would only be available locally. Newspaper articles deal with local events. Therefore, choice D is the correct answer.

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Writing Concepts and Skills	6	Purpose, Audience, Focus	6.WC.PAF.2	2

Which of the following sentences would be best to use in an essay about how long it took for a popular author to get her award-winning book published?

- A Madeleine L'Engle reportedly wrote her first story when she was five years old.
- B Madeleine L'Engle completed *A Wrinkle in Time* in 1960, but it was not published until 1962.
- C Madeleine L'Engle wrote dozens of books, and nearly all were published during her lifetime.
- D Madeleine L'Engle was eighty-eight years old when she died in 2007.

#### **RATIONALE**

This question asks students to determine which sentence provides the appropriate information for an essay about the length of time an author needed to get her book published. All of the choices make reference to the author, but only choice B describes the amount of time that passed between the author completing the book and publishing it. Therefore, the correct answer is B.

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Writing Concepts and Skills	6	Supporting Details	6.WC.SD.1	2

*Which of the following sentences should NOT be included in a paragraph about Abraham Lincoln's election in 1860?*

- A Abraham Lincoln received fewer than half of the votes.
- B There were three other candidates for president besides Lincoln during the election of 1860.
- C The most famous speech by Abraham Lincoln was the Gettysburg Address.
- D South Carolina seceded from the Union because Lincoln won the 1860 election.

**RATIONALE**

This question asks students to determine which sentence does not provide appropriate information for a paragraph about Abraham Lincoln's election in 1860. Only choice C does not discuss the election of 1860; therefore, the correct answer is C.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Mechanics	6	Usage	6.WM.U.2	2

Comic books just aren't for kids anymore. When I started reading comics at the tender age of seven, good always triumphed over evil, the hero usually walked away unscathed to fight another day. The characters stood for something. Call it something as corny as the American way—\_\_\_\_\_ from heroes like Superman, Wonder Woman, the Avengers, the Fantastic Four, and the Justice League of America, I learned that playing fair is the only way to play. These heroes won through brains and the sheer force of their morality. Realistic? No, but I'd take them over today's most popular characters, \_\_\_\_\_ fight on the same level as the villains, sometimes stooping even lower. The code of honor in comics nowadays \_\_\_\_\_ to be an eye for an eye; today's heroes will kill as they have to, without compunction.

One comic book currently published that comes closest to capturing the noble, truer-than-blue heroes is DC's All Star Squadron, a series set appropriately enough during the second World War, perhaps the very last time in history that the United States had a clear sense of its moral righteousness.

Which of the following words best fills in the blank in line 19?

- seems
- seem
- have seemed
- had seemed

**RATIONALE****Content Category, Usage/Subject-Verb Agreement**

Choice A is correct. The singular verb "seems" agrees in number with the singular subject "The code of honor." In Choices B and C, the plural verbs do not agree in number with the singular subject "The code of honor." Choice D is incorrect. The past perfect tense verb "had seemed" does not communicate an action that is ongoing.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Mechanics	6	Usage	6.WM.U.2	2

Choose the word that goes into the blank to make the sentence correct.

Cynthia was lying on the grass watching clouds when it \_\_\_\_\_ to rain.

- began
- begins
- begun
- begin

**RATIONALE**

The correct answer is Choice A. The first verb in the sentence is "was lying." This past tense verb construction at the beginning of the sentence means that only a past tense verb can correctly fill the blank. Only Choice A is a past tense verb that can correctly fit with the pronoun "it."

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Mechanics	6	Usage	6.WM.U.4	2

Comic books just aren't for kids anymore. When I started reading comics at the tender age of seven, good always triumphed over evil, the hero usually walked away unscathed to fight another day. The characters stood for something. Call it something as corny as the American way—\_\_\_\_\_ from heroes like Superman, Wonder Woman, the Avengers, the Fantastic Four, and the Justice League of America, I learned that playing fair is the only way to play. These heroes won through brains and the sheer force of their morality. Realistic? No, but I'd take them over today's most popular characters, \_\_\_\_\_ fight on the same level as the villains, sometimes stooping even lower. The code of honor in comics nowadays \_\_\_\_\_ to be an eye for an eye; today's heroes will kill as they have to, without compunction.

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Which of the following words best fills in the blank in line 8?

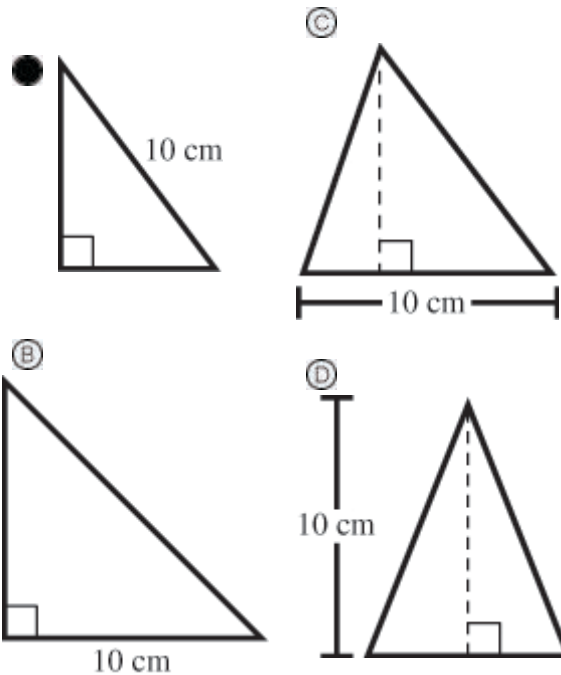
- A but
- B and
- C so
- D except

#### **RATIONALE**

Choice A is the correct choice. It is the only choice that provides the proper contrast between the ideas being expressed by "but," which in this case means "yet."

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	7	Geometry and Spatial Sense	7.MA.GS.1	1

Which of the following figures shows a triangle with a hypotenuse of 10 centimeters (cm)?

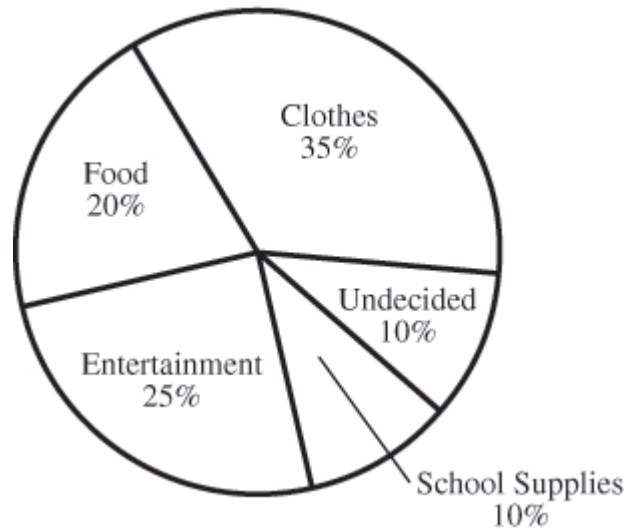
**RATIONALE**

The correct answer is choice (A). The hypotenuse of a right triangle is the side opposite the right angle. In the other figures, the side measuring 10 cm is not the hypotenuse.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	7	Numbers and Number Relationships	7.MA.NNR.3	2

Antonio earns \$140 each week from his part-time job. The circle graph below shows how Antonio spends the money he earns.

ANTONIO'S WEEKLY BUDGET



One week, Antonio spent half of the money in the "Undecided" category on clothes. What was the total amount of money he spent on clothes that week?

- (A) \$14
- (B) \$42
- (C) \$49
- (D) \$56

**RATIONALE**

The correct answer is choice (D). Half of 10% is 5%, and adding that to 35% gives 40% as the amount he spent on clothes. 40% of 140 is \$56.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Quantitative Reasoning	7	Analysis	7.QR.A.2	2

Barbara and Shantell have two identical fair number cubes. Each side of each cube is labeled with a different number from 1 to 6. Barbara says that the probability of rolling a 2 on both cubes in one roll is  $\frac{1}{3}$ . Shantell says that the probability is  $\frac{1}{36}$ . Who is correct and why?

- A Neither, because  $\frac{2}{6} \times \frac{2}{6} = \frac{4}{36} = \frac{1}{9}$ .
- B Neither, because  $\frac{2}{6} + \frac{2}{6} = \frac{4}{6} = \frac{2}{3}$ .
- C Shantell, because  $\frac{1}{6} \times \frac{1}{6} = \frac{1}{36}$ .
- D Barbara, because  $\frac{1}{6} + \frac{1}{6} = \frac{2}{6} = \frac{1}{3}$ .

### RATIONALE

Since the number cubes are fair and rolling each of them has 6 possible outcomes, the probability of rolling a 2 on one cube is  $\frac{1}{6}$ . The result of rolling a certain number on one of the cubes is independent of the result of rolling a certain number on the other. Therefore, the probability of rolling a 2 on both cubes is equal to the product of the probabilities of rolling a 2 on each cube, which is  $\frac{1}{6} \times \frac{1}{6}$ . Choice C is correct.

Alternatively, the rolling of two cubes can be seen as a single experiment and the outcomes of this experiment are ordered pairs  $(a, b)$ , where  $a$  is the result of rolling the first cube and  $b$  the result of rolling the second cube. Since both  $a$  and  $b$  can take 6 values, there are a total of 36 pairs, which can be seen as equally likely outcomes. The ordered pair  $(2, 2)$  is one of those pairs, and therefore, the probability of rolling a 2 on both cubes is  $\frac{1}{36}$ .

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Quantitative Reasoning	7	Comparison	7.QR.C.1	2

Which list shows the following values in order from least value to greatest value?

$0.88, 0.08, 20\%, \frac{2}{3}$

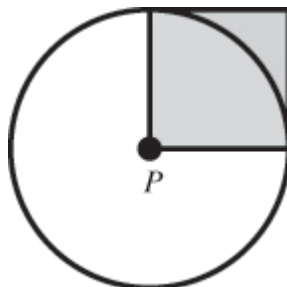
- (A)  $20\%, 0.08, \frac{2}{3}, 0.88$
- (B)  $0.88, \frac{2}{3}, 20\%, 0.08$
- (C)  $0.08, \frac{2}{3}, 0.88, 20\%$
- (D)  $0.08, 20\%, \frac{2}{3}, 0.88$

#### RATIONALE

Writing each of the numbers in decimal form will make them easier to compare. Since 20% is  $20/100$  or  $0.20$  and  $2/3$  is  $0.66\dots$ , the list of numbers can be expressed as  $0.88, 0.08, 0.20, 0.66\dots$ . From least to greatest the list is  $0.08, 0.20, 0.66\dots, 0.88$  which equivalent to choice D.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Quantitative Reasoning	7	Comparison	7.QR.C.2	2

In the figure below, two sides of the shaded square are radii of the circle.



**A**

The area of the circle divided by  $\pi$

**B**

The area of the square

Which statement is true?

- A is greater than B.
- B is greater than A.
- A and B are equal.
- There is not enough information to tell which is greater.

#### RATIONALE

The area of the circle is  $\pi r^2$ , where  $r$  is the radius of the circle. If this is divided by  $\pi$ , the result is  $r^2$ . The area of the square is equal to  $r^2$  because  $r$  is also the length of each side of the square, so A and B are equal. Choice C is correct.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	7	Explicit Information	7.RC.EI.1	3

### Boudicca

1 Many times, when we think of women in ancient cultures, we believe them to be weak with little or no power. Compare that image with Roman historian Cassius Dio's description of Boudicca, the wife of the Iceni king Prasutagus.

*In stature she was very tall, in appearance most terrifying, in the glance of her eye most fierce, and her voice was harsh; a great mass of the tawniest hair fell to her hips; around her neck was a large golden necklace; . . . She now grasped a spear to aid her in terrifying all beholders . . . (Roman History [lxii.1-2])*

2 Who was Boudicca? Some believe she was a queen who was a military leader. Others think of her more as a mother, wife, and warrior. One thing is indisputable: Boudicca changed the history of England when she led an uprising against the invading Roman armies.

3 By the year 43 of the Common Era (CE), the Romans had expanded their territory from Italy across what was to become Europe and then had invaded the British Isles. One of the native tribes in Britain was the Iceni, a group of people eventually classified as Celts. Because their land was surrounded by the Atlantic Ocean on two sides and by a dense forest on another, they were effectively protected from invaders for much of their history.

4 Still, Prasutagus, who was the king of Iceni, understood that a time would come when he would have to either make peace with the Romans or battle them. Weighing the superiority of Roman weapons, tactics, and numbers against the independence of his own people, Prasutagus had to make a difficult decision. Eventually, he met with the Romans at the town of Camulodunum to become a Roman client king. This status meant that he had to follow the rules of the Romans, but it also assured his own people of being able to keep their way of life and their customs. Thus, the Romans allowed Prasutagus to continue to rule. When he died, he left half of his land to the Roman Emperor, Nero, and the other half to his wife Boudicca and his daughters.

5 Iceni law granted women many rights. Royal women held not only prestigious positions but also real power. They held places in their society as leaders in politics, art, and religion. Even in those ancient days, they chose their own spouses and could own land. The Romans had different beliefs, however. When Prasutagus died, the Romans came and took everything that belonged to him.

6 Believing that Prasutagus's people were now under his control, the Roman governor, Suetonius Paulinus, turned his attention to subduing Druid tribes in Wales. With two-thirds of the Roman army in Wales, Boudicca, who was humiliated and angry, saw her chance.

7 Because the Romans heavily taxed the people of Iceni and had taken a great deal of their land, the Romans were unpopular with most of the tribes of Iceni. For this reason, the tribes united behind Boudicca, whom they saw as their rightful leader after the death of her husband. Soon, Boudicca had an army of more than 100,000 people.

8 The queen and her troops recaptured two large towns and soon marched into London, which they were able to free from Roman control. But Boudicca's army grew hungry and tired, and the Romans had intentionally destroyed all the food they were forced to leave behind. With her troops weakened, Boudicca attacked one last time and lost.

9 The events of Boudicca's rebellion were forgotten until 1360. The story would become popular again under the reign of another English queen who protected England against a threatening invasion: Queen Elizabeth I.

Which of the following statements best summarizes the information in the passage as a whole?

- A queen in ancient Britain fought valiantly against the Roman army.
- B The tribes of Iceni were powerless against the mighty Roman army.
- C The Romans conquered the British Isles through treaties and military power.
- D Iceni law granted women many rights that Roman women did not have.

#### **RATIONALE**

The correct answer to this question is choice A. From the beginning of the passage, the author is interested in Boudicca and in explaining both who she was and what she did. Paragraphs 3–5 explain the cultural background of the Iceni, with particular emphasis on the rights of women. From paragraph 6 forward, the passage returns to Boudicca and her leadership of an army that challenged the Romans. Choice B is not true—the Iceni army had some success against the Romans, even though they were ultimately defeated. Choices C and D are both true statements, but they do not summarize the overall content of the passage.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	7	Explicit Information	7.RC.EI.3	2

### Boudicca

1 Many times, when we think of women in ancient cultures, we believe them to be weak with little or no power. Compare that image with Roman historian Cassius Dio's description of Boudicca, the wife of the Iceni king Prasutagus.

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2 Who was Boudicca? Some believe she was a queen who was a military leader. Others think of her more as a mother, wife, and warrior. One thing is indisputable: Boudicca changed the history of England when she led an uprising against the invading Roman armies.

3 By the year 43 of the Common Era (CE), the Romans had expanded their territory from Italy across what was to become Europe and then had invaded the British Isles. One of the native tribes in Britain was the Iceni, a group of people eventually classified as Celts. Because their land was surrounded by the Atlantic Ocean on two sides and by a dense forest on another, they were effectively protected from invaders for much of their history.

4 Still, Prasutagus, who was the king of Iceni, understood that a time would come when he would have to either make peace with the Romans or battle them. Weighing the superiority of Roman weapons, tactics, and numbers against the independence of his own people, Prasutagus had to make a difficult decision. Eventually, he met with the Romans at the town of Camulodunum to become a Roman client king. This status meant that he had to follow the rules of the Romans, but it also assured his own people of being able to keep their way of life and their customs. Thus, the Romans allowed Prasutagus to continue to rule. When he died, he left half of his land to the Roman Emperor, Nero, and the other half to his wife Boudicca and his daughters.

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9 The events of Boudicca's rebellion were forgotten until 1360. The story would become popular again under the reign of another English queen who protected England against a threatening invasion: Queen Elizabeth I.

*The information in the passage suggests that both Queen Boudicca and Queen Elizabeth I*

- A rebelled against the government
- B had united the tribes of the island
- C were prepared to fight foreign invaders
- D led armies to military victories

**RATIONALE**

The correct answer to this question is choice C. The only mention of Queen Elizabeth I in the passage occurs in the final paragraph, which says, “The events of Boudicca’s rebellion were forgotten until 1360. The story would become popular again under the reign of another English queen who protected England against a threatening invasion: Queen Elizabeth I.” Note that the comparison between Boudicca and Queen Elizabeth I is stated in the second sentence in these words: “. . .another English queen who protected England against a threatening invasion. . .” This makes choice C the only correct choice.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	7	Explicit Information	7.RC.EI.2	2

### Boudicca

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Which of the following statements is *NOT* true of Iceni law and culture as it is explained in the passage?

- A Women could own land.
- B Women could be religious leaders.
- C Women could not inherit property.
- D Women could choose husbands.

**RATIONALE**

The correct answer to this question is choice C. In paragraph 5, the author describes the place of women in Iceni society. Choices A, B, and D are all mentioned in this paragraph. The last sentence of paragraph 4 says, "When he died, he left half of his land to the Roman Emperor, Nero, and the other half to his wife Boudicca and his daughters." This sentence makes clear that choice C is the only untrue statement among the choices, since Boudicca and her daughters did inherit property from Prasutagus.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	7	Inference	7.RC.I.1	2

### Boudicca

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2 Who was Boudicca? Some believe she was a queen who was a military leader. Others think of her more as a mother, wife, and warrior. One thing is indisputable: Boudicca changed the history of England when she led an uprising against the invading Roman armies.

3 By the year 43 of the Common Era (CE), the Romans had expanded their territory from Italy across what was to become Europe and then had invaded the British Isles. One of the native tribes in Britain was the Iceni, a group of people eventually classified as Celts. Because their land was surrounded by the Atlantic Ocean on two sides and by a dense forest on another, they were effectively protected from invaders for much of their history.

4 Still, Prasutagus, who was the king of Iceni, understood that a time would come when he would have to either make peace with the Romans or battle them. Weighing the superiority of Roman weapons, tactics, and numbers against the independence of his own people, Prasutagus had to make a difficult decision. Eventually, he met with the Romans at the town of Camulodunum to become a Roman client king. This status meant that he had to follow the rules of the Romans, but it also assured his own people of being able to keep their way of life and their customs. Thus, the Romans allowed Prasutagus to continue to rule. When he died, he left half of his land to the Roman Emperor, Nero, and the other half to his wife Boudicca and his daughters.

5 Iceni law granted women many rights. Royal women held not only prestigious positions but also real power. They held places in their society as leaders in politics, art, and religion. Even in those ancient days, they chose their own spouses and could own land. The Romans had different beliefs, however. When Prasutagus died, the Romans came and took everything that belonged to him.

6 Believing that Prasutagus's people were now under his control, the Roman governor, Suetonius Paulinus, turned his attention to subduing Druid tribes in Wales. With two-thirds of the Roman army in Wales, Boudicca, who was humiliated and angry, saw her chance.

7 Because the Romans heavily taxed the people of Iceni and had taken a great deal of their land, the Romans were unpopular with most of the tribes of Iceni. For this reason, the tribes united behind Boudicca, whom they saw as their rightful leader after the death of her husband. Soon, Boudicca had an army of more than 100,000 people.

8 The queen and her troops recaptured two large towns and soon marched into London, which they were able to free from Roman control. But Boudicca's army grew hungry and tired, and the Romans had intentionally destroyed all the food they were forced to leave behind. With her troops weakened, Boudicca attacked one last time and lost.

9 The events of Boudicca's rebellion were forgotten until 1360. The story would become popular again under the reign of another English queen who protected England against a threatening invasion: Queen Elizabeth I.

*The quotation from Cassius Dio's Roman History portrays Boudicca as*

- Ⓐ an impressive queen
- Ⓑ a fearsome warrior
- Ⓒ an imposing rebel
- Ⓓ a vicious barbarian

#### **RATIONALE**

The correct answer to this question is choice B. To answer this question, the reader must pay careful attention to the details Cassius Dio chooses in his description of Boudicca: “In stature she was very tall, in appearance most terrifying, in the glance of her eye most fierce, and her voice was harsh; a great mass of the tawniest hair fell to her hips; around her neck was a large golden necklace; . . . She now grasped a spear to aid her in terrifying all beholders.” While the woman described here is certainly “an impressive queen” (choice A), the details indicate that the historian sees her more as a warrior—tall, with “fierce” eyes, a “harsh” voice, and grasping a spear. There is no suggestion that she is a rebel (choice C) or that she is either vicious or a barbarian (choice D).

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	7	Inference	7.RC.1.2	3

### Boudicca

1 Many times, when we think of women in ancient cultures, we believe them to be weak with little or no power. Compare that image with Roman historian Cassius Dio's description of Boudicca, the wife of the Iceni king Prasutagus.

*In stature she was very tall, in appearance most terrifying, in the glance of her eye most fierce, and her voice was harsh; a great mass of the tawniest hair fell to her hips; around her neck was a large golden necklace; . . . She now grasped a spear to aid her in terrifying all beholders . . . (Roman History [lxii.1-2])*

2 Who was Boudicca? Some believe she was a queen who was a military leader. Others think of her more as a mother, wife, and warrior. One thing is indisputable: Boudicca changed the history of England when she led an uprising against the invading Roman armies.

3 By the year 43 of the Common Era (CE), the Romans had expanded their territory from Italy across what was to become Europe and then had invaded the British Isles. One of the native tribes in Britain was the Iceni, a group of people eventually classified as Celts. Because their land was surrounded by the Atlantic Ocean on two sides and by a dense forest on another, they were effectively protected from invaders for much of their history.

4 Still, Prasutagus, who was the king of Iceni, understood that a time would come when he would have to either make peace with the Romans or battle them. Weighing the superiority of Roman weapons, tactics, and numbers against the independence of his own people, Prasutagus had to make a difficult decision. Eventually, he met with the Romans at the town of Camulodunum to become a Roman client king. This status meant that he had to follow the rules of the Romans, but it also assured his own people of being able to keep their way of life and their customs. Thus, the Romans allowed Prasutagus to continue to rule. When he died, he left half of his land to the Roman Emperor, Nero, and the other half to his wife Boudicca and his daughters.

5 Iceni law granted women many rights. Royal women held not only prestigious positions but also real power. They held places in their society as leaders in politics, art, and religion. Even in those ancient days, they chose their own spouses and could own land. The Romans had different beliefs, however. When Prasutagus died, the Romans came and took everything that belonged to him.

6 Believing that Prasutagus's people were now under his control, the Roman governor, Suetonius Paulinus, turned his attention to subduing Druid tribes in Wales. With two-thirds of the Roman army in Wales, Boudicca, who was humiliated and angry, saw her chance.

7 Because the Romans heavily taxed the people of Iceni and had taken a great deal of their land, the Romans were unpopular with most of the tribes of Iceni. For this reason, the tribes united behind Boudicca, whom they saw as their rightful leader after the death of her husband. Soon, Boudicca had an army of more than 100,000 people.

8 The queen and her troops recaptured two large towns and soon marched into London, which they were able to free from Roman control. But Boudicca's army grew hungry and tired, and the Romans had intentionally destroyed all the food they were forced to leave behind. With her troops weakened, Boudicca attacked one last time and lost.

9 The events of Boudicca's rebellion were forgotten until 1360. The story would become popular again under the reign of another English queen who protected England against a threatening invasion: Queen Elizabeth I.

What is the author's attitude toward Boudicca?

- A Admiring
- B Sympathetic
- C Curious
- D Puzzled

**RATIONALE**

The correct answer to this question is choice A. In paragraphs 1 and 2, the author introduces Boudicca in admiring terms, quoting the “warrior-queen” description from the Roman historian Dio, and then, in paragraph 2, speculating about Boudicca and stating categorically that she changed the course of history. Later in the passage, in paragraphs 6–8, the reader learns of Boudicca’s leadership ability and her bravery. The only word among the choices that appropriately describes the author’s attitude as it is conveyed in these paragraphs is choice A.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Vocabulary	7	Precision	7.VC.P.1	2

Choose the word that most precisely fits into the blank in the context of the sentence.

*During the Civil War, a notable general was criticized for spending too much time training his soldiers and planning his strategies. He explained that he would rather be considered too careful than too \_\_\_\_\_.*

- A restless
- B prompt
- C hasty
- D sudden

**RATIONALE**

The correct answer is Choice C. The first sentence gives the reader one opinion about the general's approach to training—it is too slow. The second sentence gives the general's argument in support of his methods, and he says he wants to be "too careful" instead of "too . . ." The only choice that fits with that contrast between too careful and too something else is Choice C, which suggests decisions or actions that are too fast. Choice B is also a word that describes behavior in the context of time, but it is not a contrast to "too careful."

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Vocabulary	7	Precision	7.VC.P.1	2

Choose the pair of words that most precisely fits into the blanks in the context of the sentence.

*Mahatma Gandhi, a major political and spiritual leader during the Indian independence movement, encouraged nonviolent \_\_\_\_\_ against unjust laws as a means to persuade governments to end \_\_\_\_\_.*

- (A) fortitude ... shortages
- (B) measures ... predicaments
- (C) demonstrations ... injustice
- (D) endeavors ... helplessness

#### **RATIONALE**

The correct answer is Choice C. The first blank requires a word that fits with the phrase "against unjust laws." Choices B, C, and D all have initial words that could work in the context of this part of the sentence. The second blank, however, requires a word that would connect the phrase "against unjust laws" with what governments should end. The only choice that has a word that fits into the second blank appropriately is Choice D, since protesting unjust laws is intended to end injustice.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Vocabulary	7	Word Meanings	7.VC.WM.2	2

Choose the word that is most nearly the *OPPOSITE* in meaning to the underlined word in the context of the sentence.

The feud began when a ship from one of the countries supposedly crossed into the territory of the other.

- A discussion
- B agreement
- C interference
- D connection

**RATIONALE**

The correct answer is Choice B. The underlined word means a bitter quarrel or dispute. The only word that means the opposite is Choice B.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Vocabulary	7	Word Meanings	7.VC.WM.1	2

Choose the word that is closest in meaning to the underlined word in the context of the sentence.

Andrew Carnegie founded thousands of libraries across the United States to ensure that his love of learning was perpetuated.

- A directed
- B continued
- C rewarded
- D accepted

#### **RATIONALE**

The correct answer is Choice B. The sentence says that Carnegie founded libraries in order to accomplish some goal connected with his love of learning. The only choice that connects founding libraries with Carnegie's love of learning is Choice B. In regard to Choice A, Carnegie's love of learning was *already* directed--that is why he founded libraries. Choices C and D would not be goals that are accomplished by building libraries, because building libraries would not necessarily result in Carnegie being rewarded or accepted.

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Verbal Reasoning	7	Analogical Reasoning	7.VR.AR.1	2

**BAROMETER : PRESSURE ::**

- (A) windmill : wind
- (B) buoy : ocean
- (C) odometer : car
- (D) scale : weight

**RATIONALE**

Choice D is correct because a barometer is a device that is designed to measure atmospheric pressure just as a scale is a device that is designed to measure weight. While the terms in each of the other options are related--a windmill moves wind, a buoy floats in the ocean, and an odometer is an instrument in a car--none of them shares the relationship of the given terms and option D.

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Verbal Reasoning	7	Analogical Reasoning	7.VR.AR.2	2

*["magnify" is to "microscope"] as ["measure" is to "ruler"]*

*The terms in each set of brackets are related mainly because the first term*

- (A) is a description of the second term.
- (B) is a specific type of the second term.
- (C) presents a symbol of the second term.
- (D) describes the purpose of the second term.

**RATIONALE**

Choice D is correct because the purpose of a microscope is to magnify just as the purpose of a ruler is to measure. Choices A, B, and C are incorrect because none of them accurately characterizes this relationship.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Verbal Reasoning	7	Categorical Reasoning	7.VR.CR.2	2

*mural*  
*landscape*  
*portrait*

Which of the following words is the best heading for the list above?

- A designs
- B paintings
- C illustrations
- D outlines

#### **RATIONALE**

Choice B is correct because murals, landscapes, and portraits are different kinds of paintings.

Choices A, C, and D are incorrect because none of these words is a general category that includes murals, landscapes, and portraits within it.

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Verbal Reasoning	7	Logical Reasoning	7.VR.LR.2	3

Read the information and then select the most logical conclusion that can be drawn from the information.

Each day, Julia is always the first student to get to the gym to practice dribbling the basketball and aiming for the basket.

- A Julia is trying to impress the teacher and will earn a good grade in basketball.
- B Julia will probably improve her basketball skills as a result of her daily practice.
- C Julia has no other interests and only cares about playing basketball well.
- D Julia is preparing to try out for the school basketball team.

#### **RATIONALE**

Choice B is correct because it is often the case that daily practice of an activity will result in improved skills in that activity. Choices A and D are incorrect because we are not told that Julia is taking a class in basketball or that her school has a basketball team. Choice C is incorrect because it is overly broad and not supported by the information provided.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Concepts and Skills	7	Organization	7.WC.O.3	3

Decide which is the best order for the sentences listed.

1. He played the trumpet, but he was perhaps best known for his creative and energetic singing.
2. He recorded many hit songs in a career that spanned nearly five decades from the 1920s to 1971.
3. Many people do not know that Louis Armstrong was also a composer and wrote many songs that became jazz standards.
4. Louis Armstrong was one of the most influential jazz musicians of the twentieth century.

A 4, 1, 2, 3

B 4, 3, 2, 1

C 1, 4, 3, 2

D 1, 2, 3, 4

#### **RATIONALE**

##### **Content Category: Organization/Logical Sequence**

Choice A is the correct choice. This question asks students to put four sentences in order to form a coherent paragraph. Students must be able to recognize the topic sentence and then determine the logical order of the remaining sentences. Sentence 4 is the best topic sentence because it introduces Louis Armstrong. The order of the remaining sentences is determined by the logical sequence of the events described (details about what kind of musician Armstrong was, the time period in which he worked, and a fact many people do not know about him). The other choices do not reflect a logical order for the sentences.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Concepts and Skills	7	Purpose, Audience, Focus	7.WC.PAF.2	2

*Which sentence would be most appropriate to include in a report on how the Egyptian pyramids were built?*

- Ⓐ Between 2650 and 2490 BCE, the most significant pyramids of Egypt were constructed to honor the pharaohs.
- Ⓑ The Great Pyramid of Giza stands 450 feet high, and its base would cover roughly the area of ten football fields.
- Ⓒ Five thousand years ago, the city of Giza, situated on the Nile's west bank, became the royal burial place for some of the Egyptian pharaohs.
- Ⓓ The tops of pyramids were cast out of an early form of concrete, consisting of a mixture of limestone, clay, lime, and water.

#### **RATIONALE**

Choice D is the correct answer. This question asks students to determine which sentence provides the appropriate information for a report on how the Egyptian pyramids were built. All of the choices make reference to ancient Egypt and to pyramids and their purposes, but only choice D discusses the building materials used in the pyramids. This connects directly to the topic of the report, "How the Egyptian pyramids were built."

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Concepts and Skills	7	Purpose, Audience, Focus	7.WC.PAF.2	2

Which of the following topics would be most appropriate to include in a report on how to make a pinhole camera?

- A Your supply list should include card stock, foil, tape, and a paper clip.
- B Mo Ti, a Chinese philosopher, is the first known person to describe the principles of the camera.
- C During the Middle Ages, Alhazen elaborated on the simple camera of the Chinese and explained why images were produced upside down.
- D The picture will be distorted if any movement occurs while the shutter is open.

#### **RATIONALE**

The correct answer is choice A. The topic of the report is “how to make a pinhole camera.” The only choice that deals with the topic of *how* to make a pinhole camera is choice A. Choices B and C both deal with the history of the pinhole camera, while choice D deals with the successful use of the camera after it is made.

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Writing Concepts and Skills	7	Style and Craft	7.WC.SC.3	3

Choose the best way of stating the idea.

- A The first African American pitcher in the American League was 42-year-old Leroy “Satchel” Paige, being a former player with the Negro League with an amazing fastball and who was born in Alabama.
- B Leroy “Satchel” Paige was an Alabama-born baseball player in the Negro League, with an amazing fastball, who became the first African American pitcher in the American League at the age of 42.
- C Born in Alabama, Leroy “Satchel” Paige had an amazing fastball in the Negro League, which helped him at the age of 42 to become the first African American pitcher in the American League.
- D Leroy “Satchel” Paige, born in Alabama, was a Negro League baseball player with an amazing fastball who, at the age of 42, became the first African American pitcher in the American League.

#### **RATIONALE**

##### **Content Category: Sentence Precision and Rhetoric**

Choice D is the correct choice. The question asks students to identify the sentence that is well crafted and exhibits rhetorical precision. All of the choices contain the same relevant details about Satchel Paige, but only choice D arranges these details in logical order while avoiding awkward sentence constructions.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Mechanics	7	Sentence Construction	7.WM.SC.1	2

(1) Jan van Eyck was a master painter who greatly influenced the history of art, perhaps more than other famous artists. (2) Living in the 15th Century, in what is now Belgium, van Eyck made use of the medium of oil painting in a way that had never been undertaken before. (3) Building up layers of transparent glazes that allowed him to present the smallest details of the objects he painted. (4) In typical oil paintings, the images may seem to dissolve into unrecognizable blobs and smudges of paint as one approaches the canvas. (5) The details in van Eyck's paintings, on the other hand, appear clear even when observed up closely. (6) For example, in his work *The Marriage of Giovanni Arnolfini and Giovanna Cenami*, there is a small mirror in the background of the scene. (7) In the mirror one can see not only the backs of the wedding couple in the double portrait but also two figures standing in front of them—beyond the front of the painting. (8) One of the figures is presumed to be van Eyck himself, as indicated by the inscription above the mirror: "Jan van Eyck was here in 1434."

Which of the following sentences is incomplete?

- A Sentence 1
- B Sentence 3
- C Sentence 6
- D Sentence 7

#### RATIONALE

##### Content Category, Usage/Sentence Fragments

Choice B is correct. It lacks a subject and a main verb that carries out the action of the sentence.

Each of the other choices is a complete sentence with a subject and a main verb that carries out the action of the sentence.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Mechanics	7	Spelling, Capitalization, and Punctuation	7.WM.SCP.1	1

(1) Jan van Eyck was a master painter who greatly influenced the history of art, perhaps more than other famous artists. (2) Living in the 15th Century, in what is now Belgium, van Eyck made use of the medium of oil painting in a way that had never been undertaken before. (3) Building up layers of transparent glazes that allowed him to present the smallest details of the objects he painted. (4) In typical oil paintings, the images may seem to dissolve into unrecognizable blobs and smudges of paint as one approaches the canvas. (5) The details in van Eyck's paintings, on the other hand, appear clear even when observed up closely. (6) For example, in his work *The Marriage of Giovanni Arnolfini and Giovanna Cenami*, there is a small mirror in the background of the scene. (7) In the mirror one can see not only the backs of the wedding couple in the double portrait but also two figures standing in front of them—beyond the front of the painting. (8) One of the figures is presumed to be van Eyck himself, as indicated by the inscription above the mirror: "Jan van Eyck was here in 1434."

Which of the following sentences contains a spelling error?

- A Sentence 1
- B Sentence 4
- C Sentence 7
- D Sentence 8

#### RATIONALE

##### Content Category, Spelling

Choice B is correct. The word is spelled "dissolve," not "disolve." None of the other sentences contains a misspelled word.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Algebra	8	Equations & Inequalities	8.AL.EI.1	2

If  $\frac{x}{2} - \frac{x}{3} = \frac{1}{3}$ , then  $x =$

- Ⓐ  $\frac{1}{2}$
- Ⓑ 1
- Ⓒ 2
- Ⓓ 6

**RATIONALE**

The problem asks to solve an equation for  $x$ . Multiplying both sides of the equation by 6 gives  $3x - 2x = 2$ , or  $x = 2$ . Choice C is correct.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Algebra	8	Equations & Inequalities	8.AL.EI.3	3

Carmen has twice as much money as Simone but only \$10.00 more than Julie. The three girls have a total of \$45.00. How much money does Carmen have?

- (A) \$8.75
- (B) \$13.75
- (C) \$20.00
- (D) \$22.00

**RATIONALE**

Let  $c$  be the amount of money, in dollars, that Carmen has. It is given that Carmen has twice as much money as Simone. So Simone has  $\frac{c}{2}$  dollars. It is also given that Carmen has \$10 more than Julie. So Julie has  $(c - 10)$  dollars. The three girls have a total of \$45. Symbolically this is expressed by the equation  $c + \frac{c}{2} + c - 10 = 45$ . This equation can be rewritten as  $\frac{5}{2}c = 55$ . Dividing both sides by 5 and then multiplying by 2 gives  $c = 22$ . Choice D is correct.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Algebra	8	Equations & Inequalities	8.AL.EI.4	2

If  $x^2 + 8 = 32$ , then which equation is true?

(A)  $x^2 + 8 - 32 = 32$

(B)  $x^2 + 8 = 32 - 8$

(C)  $x = \pm \sqrt{32 - 8}$

(D)  $x = \pm \sqrt{32 - 8}$

**RATIONALE**

To solve  $x^2 + 8 = 32$ , first subtract 8 from both sides of the equation to create the equivalent equation  $x^2 = 32 - 8$ . Then take the square root of each side, resulting in the solution  $x = \pm\sqrt{32 - 8}$ . The correct answer is D.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Algebra	8	Expressions, Statements, Matrices	8.AL.ESM.1	2

$$(x^2 - 5x + 3) - (x^2 - 6x + 4) =$$

- A  $x - 1$
- B  $x + 7$
- C  $-11x + 7$
- D  $2x^2 - 11x + 7$

**RATIONALE**

The problem asks to find the result of subtracting one quadratic expression from another. Using the distributive property, the difference of the given expressions can be rewritten as  $x^2 - 5x + 3 - x^2 + 6x - 4$ . Collecting the like terms yields  $x^2 - x^2 = 0$ ,  $-5x + 6x = x$ , and  $3 - 4 = -1$ . So the difference is equivalent to  $x - 1$ . Choice A is correct.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Algebra	8	Expressions, Statements, Matrices	8.AL.ESM.2	2

$$(3x - 1)^2 =$$

- A  $9x^2 + 1$
- B  $9x^3 - 3x + 1$
- C  $9x^2 - 6x - 1$
- D  $9x^2 - 6x + 1$

**RATIONALE**

Using the square of a binomial formula  $(A - B)^2 = A^2 - 2AB + B^2$  for the expression above gives  $(3x)^2 - 2(3x) + 1$ , which simplifies to  $9x^2 - 6x + 1$ . Choice D is correct.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Algebra	8	Expressions, Statements, Matrices	8.AL.ESM.3	2

What is the value of the expression  $3z + w$  when  $w = -2$  and  $z = -5$ ?

- (A) 11
- (B) 1
- (C) -11
- (D) -17

**RATIONALE**

Substituting  $-2$  for  $w$  and  $-5$  for  $z$  in the expression shown gives  $3(-5) + (-2)$ , which is equal to  $-15 - 2 = -17$ . Choice D is correct.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Algebra	8	Situations Involving Variable Quantities	8.AL.SIV.1	2

The sum of two numbers is 83, and the larger number is 13 more than the smaller one. Which of the following systems of equations could be used to find the values of the two numbers?

- $x + y = 83$   
 $y - x = -13$
- $x + y = 83$   
 $x + y = -13$
- $x - y = 83$   
 $y - x = 13$
- $x - y = 83$   
 $x - y = 13$

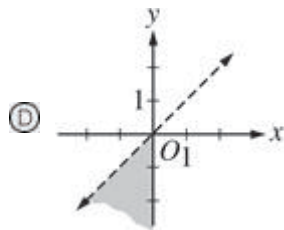
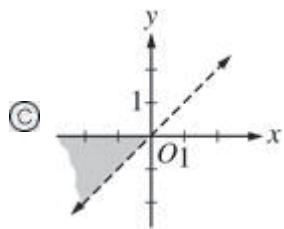
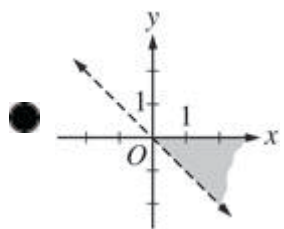
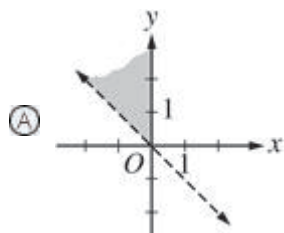
**RATIONALE**

It is given that the sum of the two numbers is 83. If these numbers are  $x$  and  $y$ , then  $x + y = 83$ . It is also given that one of the numbers is 13 more than the other. This can be expressed symbolically as either  $y - x = 13$  or as  $x - y = 13$ . The second equation can be rewritten as  $y - x = -13$ . Choice A is correct.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Algebra	8	Tables, Graphs, and Algebraic Geometry	8.AL.TGA.1	2

$$\begin{aligned}x + y &> 0 \\ y &\leq 0\end{aligned}$$

Which of the following could represent all points in the solution set of the system of inequalities above?

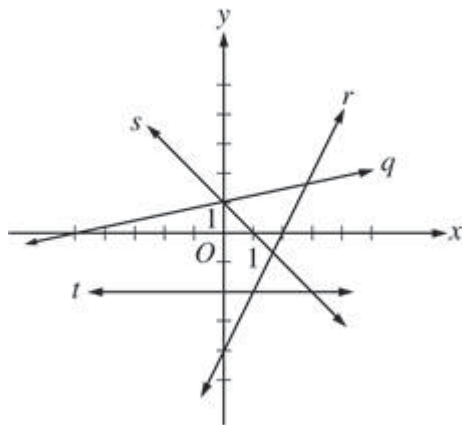


### RATIONALE

The inequality  $x + y > 0$  can be rewritten as  $y > -x$ . Geometrically, the solution of this inequality is represented by all the points on the plane that are above the line with equation  $y = -x$ . The solution of the inequality  $y \leq 0$  is represented by all the points of the plane that are on or below the  $x$ -axis.

The intersection of the two regions represents the solution set of the system of the inequalities above. Therefore, choice B is correct.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Algebra	8	Tables, Graphs, and Algebraic Geometry	8.AL.TGA.2	2



In the figure above, which of the lines has the greatest slope?

- A  $q$
- B  $r$
- C  $s$
- D  $t$

**RATIONALE**

The slope of a line measures the steepness of the line. It is positive if the line goes up moving from left to the right and decreasing vice versa. The slope is calculated as the change on  $y$ -values over the change in  $x$ -values. Of the lines shown, line  $r$  is the steepest. The slope of line  $r$  is 2. Therefore, choice B is correct.

Choice A is incorrect because the slope of line  $q$  is  $\frac{1}{5}$ , which is less than the slope of line  $r$ . Choice C is incorrect because the slope of line  $s$  is negative. Choice D is incorrect because the slope of line  $t$  is 0.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	8	Numbers and Number Relationships	8.MA.NNR.1	2

What is the value of  $\frac{(0.25 \times 10^{-14})(7.5 \times 10^{12})}{0.375 \times 10^2}$  ?

- (A) 0.00002
- (B) 0.0005
- (C) 0.02
- (D) 0.5

**RATIONALE**

The correct answer is choice (B). Using the associative and distributive laws, the expression can be rewritten as  $\frac{0.25 (7.5)}{0.375} \times \frac{10^{-14} \times 10^{12}}{10^2} = 5 \times 10^{-4} = 0.0005$ .

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	8	Probability	8.MA.P.2	2

A gardener will plant 2 tulips. Each tulip will be one of the colors listed below.

*Pink, Yellow, White, Orange, Purple, Red*

The gardener will choose tulips that are 2 different colors. Which of the following expressions can be used to determine the total number of different combinations of 2 colors?

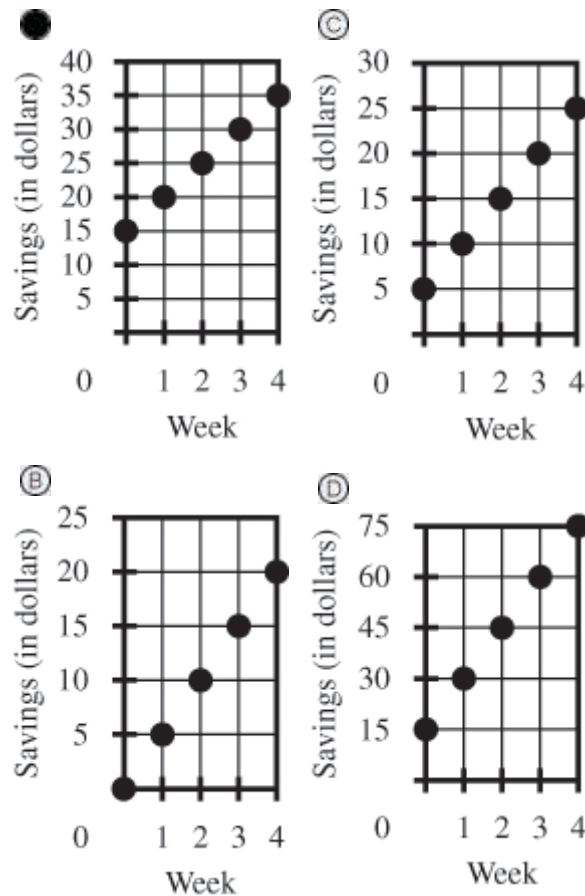
- A  $\frac{6 \times 6}{2}$
- B  $\frac{6 \times 5}{2}$
- C  $6 \times 6$
- D  $6 \times 5$

#### **RATIONALE**

The correct option is B. The first tulip can be chosen in 6 ways, and since the tulips must be of different colors, the second can be chosen in 5 ways. If the order in which the tulips were chosen mattered—for example, if choosing red first and yellow second was different than choosing yellow first and red second—there would be  $6 \times 5$ , or 30, permutations of the two tulips. However, order does not matter, so there are  $30/2$ , or 15, combinations of choosing 2 tulips of different colors.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	8	Pre-Algebra	8.MA.PA.1	2

Joe has already saved 15 dollars and plans to save 5 dollars each week for the next 4 weeks. Which of the following graphs best represents this information?



**RATIONALE**

The correct answer is choice A. Joe starts with 15 dollars, so his initial savings are represented by the point (0, 15). Each week he saves \$5, so his savings grow linearly at a rate of \$5/1 week.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	8	Pre-Algebra	8.MA.PA.3	2

If  $n$  and  $w$  are different positive integers, which of the following must be a positive integer?

- A  $n^2 - w^2$
- B  $n - w$
- C  $nw$
- D  $\frac{n}{w}$

**RATIONALE**

Choice C is correct since the product of any two positive integers is a positive integer. Choices A and B can be either positive or negative integers, depending on which is larger,  $n$  or  $w$ . Choice D will be positive, since the ratio of any two positive numbers is positive, but the ratio will only be an integer if  $n$  is a multiple of  $w$ .

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	8	Pre-Algebra	8.MA.PA.3	2

The formula  $p = \frac{n}{4} + 37$  approximates the relationship between  $p$ , the temperature in degrees Fahrenheit ( $^{\circ}\text{F}$ ), and  $n$ , the number of chirps a cricket makes in 1 minute. When the temperature is  $90^{\circ}\text{F}$ , what is the approximate number of chirps a cricket would make in 1 minute?

- A 397
- B 212
- C 60
- D 32

**RATIONALE**

To determine the number of chirps when the temperature is 90, substitute 90 in for  $p$ . This gives  $90 = \frac{n}{4} + 37$ . The solution is determined by solving for  $n$ ; the steps are as follows:

Subtract 37 from both sides:  $53 = \frac{n}{4}$

Multiply both sides by 4:  $n = 212$

The solution is 212. The correct option is B.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Quantitative Reasoning	8	Analysis	8.QR.A.2	2

A 10-character code is created using the system described below.

- Each of the first 6 characters can be any of the letters P, Q, R, S, or T.
- Each of the last 4 characters can be either of the symbols "&" or "#."

Which of the following expressions can be used to determine the total number of different codes using this system?

- A  $5^6 \times 2^4$
- B  $6^5 \times 4^2$
- C  $5^6 + 2^4$
- D  $6^5 + 4^2$

#### **RATIONALE**

For each of the first 6 characters, there are 5 letters that can be used; and for each of the last 4 characters, 2 symbols can be used. Therefore, the total number of different codes that can be created using this system is  $5^6 \times 2^4$ . Choice A is correct.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Quantitative Reasoning	8	Comparison	8.QR.C.1	3

Each of the variables  $a$ ,  $b$ , and  $n$  represents an integer greater than 0.

$$n = \frac{7}{2}a \text{ and } b = \frac{1}{3}n$$



- A The quantity in Column A is greater.
- B The quantity in Column B is greater.
- C The two quantities are equal.
- D There is not enough information to tell which is greater.

**RATIONALE**

The equation  $n = \frac{7}{2}a$  can be rewritten as  $n = (3.5)a$ , and so  $a = \frac{1}{3.5}n$ . Since  $\frac{1}{3} > \frac{1}{3.5}$ , it follows that  $\frac{1}{3}n > \frac{1}{3.5}n$ , or  $b > a$ . Choice B is correct.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Quantitative Reasoning	8	Extensions/Generalizations	8.QR.EG.1	2

If  $j \diamond k = j \times 10^k$ , what is the value of  $3 \diamond 4$ ?

- Ⓐ 120
- Ⓑ 4,000
- Ⓒ 30,000
- Ⓓ 810,000

**RATIONALE**

The correct answer is C. The rule defined by the diamond symbol is the first number times 10 to the power of second number. Therefore, 3 diamond 4 translates to 3 times  $10^4$ , which is 3 times 10,000, which is 30,000. The other options do not follow the stated rule.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	8	Analysis	8.RC.A.2	3

### Neuschwanstein Castle

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Ludwig was born in 1845 in Bavaria. Since 1871, Bavaria has been part of Germany; but when Ludwig was growing up, it was an independent kingdom, ruled by his parents. As a boy, Ludwig loved to read stories and poems about the glorious deeds of knights and ancient heroes. There were many of these stories at the time that Ludwig lived. During this period, which came to be known as the Romantic Era, many writers, artists, and music composers produced works of art celebrating the courage and strength of legendary heroes and the beauty and wildness of nature. Ludwig most probably enjoyed both the art and the music of his time.

When Ludwig was just 18 years old, his father died, and Ludwig became king of Bavaria. The young man did not enjoy the responsibility of being king. He also disliked living in the large city of Munich. As a boy, he had enjoyed visiting his family's huge stone castle in the Bavarian Alps. In 1869, he decided to build his own spectacular castle high in the mountains he loved. It would prove to be quite a challenge. Before construction could even begin, workers had to build a road to the site. Then they had to drag stones and other materials to the remote location.

Yet, the castle quickly took shape. The exterior was an old-fashioned castle like the ones knights and ladies had lived in centuries before. The interior, however, was surprisingly modern. After all, castles in the middle ages had been cold, damp, and extremely uncomfortable for the people who actually lived in them. Ludwig took advantage of all the technology available in his time. He had a communication system installed so that he could talk to his servants. The castle also had an elevator so dinner could be easily transported up from the kitchen and a modern plumbing system that delivered running water to every floor.

While working on Neuschwanstein Castle, Ludwig paid little attention to political matters. Without concern for how much it would cost, he hired painters and sculptors to decorate the castle's rooms in magnificent style. His bedroom was so elaborate that it took 14 woodcarvers four years to finish it. He had one room decorated to look like the inside of a cave, with rock walls and a water fountain. The most magnificent room was the Singers' Hall, an ideal hall for private music and opera performances.

Sadly for Ludwig, he was never able to hear any concerts in the Singers' Hall, nor to finish several of the rooms and structures he planned to have built. The new German constitutional monarchy under William I was now in charge of Bavaria and was increasingly concerned with Ludwig's wild spending. Eventually, Ludwig was forced to leave Neuschwanstein, and the castle was opened to the public.

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Why does the author mention *Sleeping Beauty's Castle at Disneyland* in paragraph 1?

- A To help the reader understand what the Neuschwanstein looks like
- B To compare the location of Neuschwanstein to Disneyland
- C To give some idea of the size of Neuschwanstein
- D To show how Neuschwanstein resembled other royal palaces

**RATIONALE**

The correct answer is choice A. The second sentence of the passage says, "In fact, Walt Disney used Neuschwanstein as the model for Sleeping Beauty's Castle at Disneyland, and it's easy to see why." The "model" for the Disneyland castle is Neuschwanstein Castle--Walt Disney wanted to create a fairy-tale castle, and he imitated what Neuschwanstein Castle looks like for that creation. There is no support for the comparisons of location, size, or other royal palaces in the passage.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	8	Analysis	8.RC.A.3	3

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Paragraph 5 suggests that the author believes that which of the following statements is true?

- (A) Ludwig II was unfairly treated by the German government.
- (B) Ludwig II wanted to showcase his country's artist in his castle.
- (C) Ludwig II was dedicated to creating a castle to share with his people.
- (D) Ludwig II was preoccupied by his own personal interests.

**RATIONALE**

The correct answer is choice D. Paragraph 5 begins with this sentence: "While working on Neuschwanstein Castle, Ludwig paid little attention to political matters." The paragraph goes on to describe specific examples of Ludwig's elaborate and expensive additions to Neuschwanstein Castle. The implication from all of these details is that Ludwig was much more interested in his castle than what was happening to his country and its people.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	8	Analysis	8.RC.A.3	3



#### All Dressed Up and Nowhere to Go

At first I heard them on the roof,  
 Their gentle pitter-pat,  
 Then wet upon the window was  
 Their friendly rat-a-tat.

“Come and play,” the raindrops called.  
 “In puddles we can splash.  
 So hurry, girl, put on your gear!  
 Get ready in a flash!”

Eager to enjoy some fun,  
 I dug out my umbrella.  
 I found my rubber boots, and yet,  
 My coat? I couldn't tell ya!

Where was that yellow coat of mine?  
 Not hanging on the hook,  
 Not in the car, not on the porch,  
 No place I chose to look!

I even checked my sister's stuff,  
 Though she would never don it.  
 She has her own, and mine's too small.  
 Besides, I'd never share it!

One final hiding spot remained:  
 The closet in the hall.  
 A-ha! I laughed and threw it on.  
 Now I had it all!

But while I'd hunted for my coat,  
The rain had stopped its dance.  
And now the sky was clearing so  
The sun would have its chance.

Which of the following conclusions is supported by information in the passage?

- A Munich lacked the culture that Ludwig desired.
- B Bavaria lost its independence while Ludwig built the castle.
- C Ludwig did not have any brothers or sisters.
- D William I secretly wanted to live in Neuschwanstein Castle.

#### **RATIONALE**

The correct answer to this question is choice B. This is the only choice supported by information in the passage, particularly paragraphs 5 and 6. Paragraph 5 begins with this sentence: "While working on Neuschwanstein Castle, Ludwig paid little attention to political matters. . . ." Paragraph 6 elaborates on the consequences of Ludwig's spending on building and decorating the castle: "Sadly for Ludwig, he was never able to hear any concerts in the Singers' Hall, nor to finish several of the rooms and structures he planned to have built. The new German constitutional monarchy under William I was now in charge of Bavaria and was increasingly concerned with Ludwig's wild spending. Eventually, Ludwig was forced to leave Neuschwanstein, and the castle was opened to the public." The only time Munich is mentioned in the passage is in paragraph 3, which says, "He also disliked living in the large city of Munich." There is no reason given for this dislike. There is no support in the passage for choices C and D.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	8	Explicit Information	8.RC.EI.3	2

### Neuschwanstein Castle

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All of the following were innovations built into Neuschwanstein EXCEPT

- A a system that allowed Ludwig to talk to people in a different room
- B a road up the mountain to the site of the castle
- C running water on every floor
- D an elevator from the kitchen to the dining room

**RATIONALE**

The correct answer is choice B. In paragraph 4 of the passage, the reader learns that “Ludwig took advantage of all the technology available in his time.” Specific details of the communication, plumbing, and elevator innovations are given as examples. Building a road up the mountain was something required as part of the castle’s construction, but there is no evidence to suggest that such a road was anything new in Bavaria.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	8	Explicit Information	8.RC.EI.2	2

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According to the passage, Ludwig II's design of Neuschwanstein was influenced by

- A where he lived as a young boy
- B his training to be a king
- C stories he read while he was growing up
- D the expectations of the Bavarian people

**RATIONALE**

The correct answer is choice C. In the second paragraph of the passage, the reader learns that Ludwig II loved to read “stories and poems about the glorious deeds of knights and ancient heroes.” We also learn that he visited his family’s stone castle in the Alps as a child--both the stories and his vacation castle influenced him. None of the other choices are mentioned as influences on Ludwig II that led him to want to build a fantasy castle high on a mountain.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Vocabulary	8	Precision	8.VC.P.1	2

Choose the word that most precisely fits into the blank in the context of the sentence.

The characters in Harper Lee's novel, *To Kill a Mockingbird*, which is set in Alabama in the 1930s, use many \_\_\_\_\_ expressions unique to the South in their speech.

- (A) vague
- (B) unwise
- (C) illogical
- (D) idiomatic

**RATIONALE**

The correct answer is Choice D. The sentence requires a word that can be used to describe unique characteristics of speech from a particular region of the U.S. The only word that can be used in this context is Choice D, which means peculiar to a particular group or style.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Vocabulary	8	Word Meanings	8.VC.WM.1	1

Choose the word or phrase that is most nearly the *OPPOSITE* in meaning to the word in capital letters.

**OBSTRUCT:**

- (A) Hoard
- (B) Build
- (C) Inform
- (D) Foster

**RATIONALE**

The correct answer is Choice D. The capitalized word means to block, prevent, or hinder something. Choice D means to encourage or promote or advance something. This makes Choice D an exact opposite of the capitalized word.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Vocabulary	8	Word Meanings	8.VC.WM.1	1

Choose the word that is closest in meaning to the word in capital letters.

**TEMPERATE:**

- Moderate
- Routine
- Sequential
- Delicate

**RATIONALE**

The correct answer is Choice A. This is the meaning of the capitalized word, and thus a synonym.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Verbal Reasoning	8	Categorical Reasoning	8.VR.CR.1	2

*Recoil*  
*Flinch*  
*Shrink*

Which of the following words best fits in the list above?

- A Cringe
- B Shirk
- C Shiver
- D Submerge

#### **RATIONALE**

Choice A is correct because, like the three words in the box, it means to draw back or react physically in response to something fearful or unpleasant. Choices B, C, and D are incorrect because they do not share this meaning.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Verbal Reasoning	8	Categorical Reasoning	8.VR.CR.2	2

*degrees*  
*liters*  
*meters*

Which of the following words is the best heading for the list above?

- A shapes
- B distances
- C instruments
- D measurements

#### **RATIONALE**

Choice D is correct because degrees, liters, and meters are different kinds of measurements. Choices A, B, and C are incorrect because none of them is a general term that comprises the other three terms.

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Verbal Reasoning	8	Logical Reasoning	8.VR.LR.2	3

*Rashid tried out for the school soccer team even though he had never played organized soccer before. The soccer coach made Rashid a starting player on the team after Rashid had practiced with the team for only three weeks. Which of the following statements is the LEAST likely explanation for the coach's decision?*

- A The coach wanted to give his new player a chance to be on the team.
- B Rashid practiced intensely and learned the strategies of the sport.
- C The coach believed his new player was as good as his other players.
- D Rashid demonstrated the skills necessary to excel on the team.

**RATIONALE**

Note that this question asks for the LEAST likely explanation. Choice A is correct because, if the coach simply wanted his new player to be on the team, he did not need to make him one of the starting players. Choices B, C, and D are incorrect because each of them is a likely reason that the coach would have made Rashid a starting player on the team.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Verbal Reasoning	8	Logical Reasoning	8.VR.LR.2	3

*The Dabrowski family owns a hybrid car. They recently installed solar energy panels on their roof and they recycle their newspapers and aluminum cans. The Dabrowskis most likely*

- Ⓐ try to save money in as many ways as they can
- Ⓑ are interested in conserving natural resources
- Ⓒ grow their own vegetables and fruits
- Ⓓ live in an area where energy resources are limited

**RATIONALE**

Choice B is correct because hybrid cars, solar energy panels, and recycling are all examples of different ways to conserve natural resources. Choices A, C, and D are incorrect because there is no information provided that supports any of them, so each of them is less likely to be true than choice B.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Concepts and Skills	8	Purpose, Audience, Focus	8.WC.PAF.2	3

(1) Joe "King" Oliver played the horn like few other musicians. (2) As the leader of several jazz bands and mentor to Louis Armstrong, who called him "Papa Joe," he influenced countless future musicians.

(3) Oliver enjoyed using a variety of props to mute his cornet, an instrument similar to a trumpet. (4) Today, trumpets have mostly replaced cornets. (5) Cups, glasses, toilet plungers, hats, and even kazoos were among the objects Oliver used to make his cornet sing. (6) His talent was such that he could even make the instrument sound like a baby crying.

(7) According to some sources, Oliver liked to eat sugar sandwiches. (8) It may be that this love of sweets contributed to the gum disease that eventually would bring an end to his playing. (9) Oliver had a tremendous influence on his most famous student, Louis Armstrong. (10) In addition, his playing has inspired cornet and trumpet players alike from many different musical styles.

Which of the following best describes the tone of the passage?

- A Admiring
- B Objective
- C Excited
- D Amused

#### **RATIONALE**

This question asks students to identify the tone of the passage. The correct answer is choice A, admiring, as indicated by phrases like "played the horn like few other musicians," "His talent," and "had a tremendous influence." Choices B and D do not correctly identify the tone of the passage, and while choice C conveys an enthusiastic tone, the author's tone of respect for Oliver's achievements is best described as "admiring" rather than "excited."

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Concepts and Skills	8	Style and Craft	8.WC.SC.2	3

(1) Joe "King" Oliver played the horn like few other musicians. (2) As the leader of several jazz bands and mentor to Louis Armstrong, who called him "Papa Joe," he influenced countless future musicians.

(3) Oliver enjoyed using a variety of props to mute his cornet, an instrument similar to a trumpet. (4) Today, trumpets have mostly replaced cornets. (5) Cups, glasses, toilet plungers, hats, and even kazoos were among the objects Oliver used to make his cornet sing. (6) His talent was such that he could even make the instrument sound like a baby crying.

(7) According to some sources, Oliver liked to eat sugar sandwiches. (8) It may be that this love of sweets contributed to the gum disease that eventually would bring an end to his playing. (9) Oliver had a tremendous influence on his most famous student, Louis Armstrong. (10) In addition, his playing has inspired cornet and trumpet players alike from many different musical styles.

*Which of the following sentences best combines sentences 9 and 10?*

- A Nevertheless, Oliver's playing has inspired cornet and trumpet players alike from many different musical styles, including his most famous student, Louis Armstrong.
- B Finally, Oliver not only had a tremendous influence on Louis Armstrong, who was his most famous student, but also his playing has inspired cornet and trumpet players alike from many different musical styles.
- C As a horn player, Oliver had a tremendous influence on cornet and trumpet players alike from many different musical styles, and his most famous student, Louis Armstrong, whom he also has inspired.
- D However, Oliver had not only a tremendous influence on Louis Armstrong, his most famous student, also Oliver has inspired cornet and trumpet players alike from many different musical styles.

#### **RATIONALE**

This question asks students to effectively combine sentences 9 and 10. Choice A effectively combines both sentences to indicate that Oliver inspired both Louis Armstrong and other musicians despite his career coming to an end. The other choices do not effectively combine the ideas that Oliver inspired both Louis Armstrong and other musicians. Therefore, choice A is correct.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Concepts and Skills	8	Supporting Details	8.WC.SD.1	2

(1) Joe "King" Oliver played the horn like few other musicians. (2) As the leader of several jazz bands and mentor to Louis Armstrong, who called him "Papa Joe," he influenced countless future musicians.

(3) Oliver enjoyed using a variety of props to mute his cornet, an instrument similar to a trumpet. (4) Today, trumpets have mostly replaced cornets. (5) Cups, glasses, toilet plungers, hats, and even kazoos were among the objects Oliver used to make his cornet sing. (6) His talent was such that he could even make the instrument sound like a baby crying.

(7) According to some sources, Oliver liked to eat sugar sandwiches. (8) It may be that this love of sweets contributed to the gum disease that eventually would bring an end to his playing. (9) Oliver had a tremendous influence on his most famous student, Louis Armstrong. (10) In addition, his playing has inspired cornet and trumpet players alike from many different musical styles.

Which of the following sentences does NOT belong in the passage?

- A Sentence 3
- B Sentence 4
- C Sentence 5
- D Sentence 6

#### **RATIONALE**

This question asks students to identify which sentence contains irrelevant details. The focus of the passage is on Oliver and his legacy. Sentence 4 is the only sentence that is irrelevant to that topic. Therefore, choice B is correct.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Mechanics	8	Sentence Construction	8.WM.SC.1	2

(1) Working as a craftsman in Tennessee in the late 1700s, Sequoyah, a member of the Cherokee Nation, became fascinated with books and newspapers. (2) The Cherokees had no books in their own language. (3) In part this was because, like many other native Americans, they did not use written language.

(4) Around 1809, Sequoyah began work on an ambitious project; to create a Cherokee alphabet so that his people could read and write in their own language. (5) He worked on the project for 12 years. (6) Sequoyah's alphabet, when finished, contained more than 80 characters, representing all the sounds of spoken Cherokee. (7) It was so straightforward that even a child could learn it quickly, but one obstacle remained. (8) Many Cherokees were skeptical about his creation. (9) For years, observing him walking around muttering to himself and drawing on bits of paper. (10) Some people believed he had given up in despair.

(11) Sequoyah overcame this image by giving public demonstrations designed to show how useful his alphabet could be. (12) His daughter Ah-yo-ka, \_\_\_\_\_ Sequoyah had taught to read, helped him in these demonstrations. (13) She would leave the area, and Sequoyah would write down the words of someone watching the demonstration. (14) When Ah-yo-ka returned, she was able to read the words that had been spoken. (15) In 1821, after such a demonstration, the Cherokee Tribal Council officially approved Sequoyah's alphabet.

Which of the following sentences is incomplete?

- A Sentence 2
- B Sentence 9
- C Sentence 11
- D Sentence 13

### RATIONALE

#### Content Category, Usage/Sentence Fragments

Choice B is correct. A subject ("They") and a main verb ("observed") are needed to make this sentence complete. Without these, it is a sentence fragment. Each of the other choices is a complete sentence with a subject and a main verb that carries out the action of the sentence.

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Writing Mechanics	8	Sentence Construction	8.WM.SC.1	2

*Which of the following is a run-on sentence?*

- Ⓐ People of all ages appreciate the humorous nature of comic books.
- Ⓑ Historical fiction is a genre read by many people who find it entertaining.
- Ⓒ Poetry is an expressive form of writing it requires precise word choice from the author.
- Ⓓ Biographies can frequently be found on bookshelves in stores around the world.

#### **RATIONALE**

##### **Content Category, Usage/Run-On Sentences**

Choice C is correct. Two independent clauses (“Poetry . . . writing” and “it requires . . . the author”) are joined without any punctuation or coordinating conjunctions between them, resulting in a run-on sentence. Each of the other choices is an independent clause that does not need any punctuation.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Mechanics	8	Spelling, Capitalization, and Punctuation	8.WM.SCP.3	2

(1) Working as a craftsman in Tennessee in the late 1700s, Sequoyah, a member of the Cherokee Nation, became fascinated with books and newspapers. (2) The Cherokees had no books in their own language. (3) In part this was because, like many other native Americans, they did not use written language.

(4) Around 1809, Sequoyah began work on an ambitious project; to create a Cherokee alphabet so that his people could read and write in their own language. (5) He worked on the project for 12 years. (6) Sequoyah's alphabet, when finished, contained more than 80 characters, representing all the sounds of spoken Cherokee. (7) It was so straightforward that even a child could learn it quickly, but one obstacle remained. (8) Many Cherokees were skeptical about his creation. (9) For years, observing him walking around muttering to himself and drawing on bits of paper. (10) Some people believed he had given up in despair.

(11) Sequoyah overcame this image by giving public demonstrations designed to show how useful his alphabet could be. (12) His daughter Ah-yo-ka, \_\_\_\_\_ Sequoyah had taught to read, helped him in these demonstrations. (13) She would leave the area, and Sequoyah would write down the words of someone watching the demonstration. (14) When Ah-yo-ka returned, she was able to read the words that had been spoken. (15) In 1821, after such a demonstration, the Cherokee Tribal Council officially approved Sequoyah's alphabet.

Which of the following sentences contains a punctuation error?

- A Sentence 1
- B Sentence 3
- C Sentence 4
- D Sentence 7

#### RATIONALE

Choice C is correct. A semicolon should only be used to join two independent clauses. The other sentences are properly punctuated.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Mechanics	8	Spelling, Capitalization, and Punctuation	8.WM.SCP.2	1

(1) Working as a craftsman in Tennessee in the late 1700s, Sequoyah, a member of the Cherokee Nation, became fascinated with books and newspapers. (2) The Cherokees had no books in their own language. (3) In part this was because, like many other native Americans, they did not use written language.

(4) Around 1809, Sequoyah began work on an ambitious project; to create a Cherokee alphabet so that his people could read and write in their own language. (5) He worked on the project for 12 years. (6) Sequoyah's alphabet, when finished, contained more than 80 characters, representing all the sounds of spoken Cherokee. (7) It was so straightforward that even a child could learn it quickly, but one obstacle remained. (8) Many Cherokees were skeptical about his creation. (9) For years, observing him walking around muttering to himself and drawing on bits of paper. (10) Some people believed he had given up in despair.

(11) Sequoyah overcame this image by giving public demonstrations designed to show how useful his alphabet could be. (12) His daughter Ah-yo-ka, \_\_\_\_\_ Sequoyah had taught to read, helped him in these demonstrations. (13) She would leave the area, and Sequoyah would write down the words of someone watching the demonstration. (14) When Ah-yo-ka returned, she was able to read the words that had been spoken. (15) In 1821, after such a demonstration, the Cherokee Tribal Council officially approved Sequoyah's alphabet.

Which of the following sentences contains a capitalization error?

- A Sentence 1
- B Sentence 3
- C Sentence 6
- D Sentence 15

### RATIONALE

#### Content Category, Capitalization

Choice B is correct. Both words in the term "Native American" should be capitalized because it is a proper noun. All of the other choices include words that are properly capitalized.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Mechanics	8	Usage	8.WM.U.1	2

(1) Working as a craftsman in Tennessee in the late 1700s, Sequoyah, a member of the Cherokee Nation, became fascinated with books and newspapers. (2) The Cherokees had no books in their own language. (3) In part this was because, like many other native Americans, they did not use written language.

(4) Around 1809, Sequoyah began work on an ambitious project; to create a Cherokee alphabet so that his people could read and write in their own language. (5) He worked on the project for 12 years. (6) Sequoyah's alphabet, when finished, contained more than 80 characters, representing all the sounds of spoken Cherokee. (7) It was so straightforward that even a child could learn it quickly, but one obstacle remained. (8) Many Cherokees were skeptical about his creation. (9) For years, observing him walking around muttering to himself and drawing on bits of paper. (10) Some people believed he had given up in despair.

(11) Sequoyah overcame this image by giving public demonstrations designed to show how useful his alphabet could be. (12) His daughter Ah-yo-ka, \_\_\_\_\_ Sequoyah had taught to read, helped him in these demonstrations. (13) She would leave the area, and Sequoyah would write down the words of someone watching the demonstration. (14) When Ah-yo-ka returned, she was able to read the words that had been spoken. (15) In 1821, after such a demonstration, the Cherokee Tribal Council officially approved Sequoyah's alphabet.

Which of the following words best fits in the blank in sentence 12?

- A that
- B which
- C who
- D whom

#### **RATIONALE**

Choice D is correct. The blank in the sentence refers to a person, Sequoyah's daughter. This reference makes choices A and B incorrect. The structure of the sentence ("... \_\_\_\_\_ Sequoyah had taught to read") demands "whom" because the missing pronoun is the object of the phrase. Another way to say it would be, "Sequoyah taught her to read." Both "her" and "whom" are in the objective case.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Algebra	9	Equations & Inequalities	9.AL.EI.2	2

In the equations below,  $x$  represents any real number. Which equation demonstrates the additive inverse property for real numbers?

A  $x + (-x) = 0$

B  $x - (-x) = 0$

C  $x + (-x) = 1$

D  $x + \left(\frac{1}{x}\right) = 0$

**RATIONALE**

The additive inverse property for real numbers states that for every real number  $x$ , there a unique number, called the additive inverse (or opposite) of  $x$ , denoted  $-x$ , which when added to  $x$  gives 0. So the equation  $x + (-x) = 0$  demonstrates this property. Choice A is correct.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	9	Algebra	9.MA.A.3	2

What is the solution to the inequality  $-2x - 5 \leq 2$ ?

$x \geq -\frac{7}{2}$

$x \leq -\frac{7}{2}$

$x \geq \frac{3}{2}$

$x \leq \frac{3}{2}$

**RATIONALE**

The correct answer is choice (A). To solve the inequality, the student adds 5 to both sides and then divides both sides by  $-2$ . Since both sides are divided by a negative number, the inequality must be switched.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	9	Algebra	9.MA.A.1	2

The table below shows a relationship between values of  $x$  and  $y$ .

$x$	$y$
2	1.7
3	2.55
5	4.25
9	7.65

Which of the following equations represents the relationship between  $x$  and  $y$  shown in the table?

(A)  $x = \frac{17}{20}y$

(B)  $y = \frac{17}{20}x$

(C)  $x = y - 0.3$

(D)  $y = x - 0.3$

**RATIONALE**

The correct answer is choice (B) since the data in the table follows the equation  $y = \frac{17}{20}x$ .

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	9	Algebra	9.MA.A.2	2

Which of the following expressions is equivalent to  $\frac{1}{2}(x-4)^2 + 3(x-\sqrt{5})(x+\sqrt{5})$ ?

- Ⓐ  $\frac{7}{2}x^2 + 8x + 1$
- Ⓑ  $\frac{7}{2}x^2 + 4x - 7$
- Ⓒ  $\frac{7}{2}x^2 - 4x - 7$
- Ⓓ  $\frac{7}{2}x^2 - 8x - 31$

**RATIONALE**

The correct answer is choice (C). The original expression is equivalent to  $\frac{1}{2}(x^2 - 8x + 16) + 3(x^2 - 5)$ , which simplifies to  $\frac{7}{2}x^2 - 4x - 7$ .

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	9	Algebra	9.MA.A.4	2

Which of the following equations best represents the statement below?

The sum of two times a number,  $x$ , and the square of one-fourth the number  $x$  is the same as 5.

- A  $2x + \frac{x^2}{4} = 5$
- B  $2\left(x + \frac{x^2}{4}\right) = 5$
- C  $2x + \left(\frac{x}{4}\right)^2 = 5$
- D  $2\left[x + \left(\frac{x}{4}\right)^2\right] = 5$

**RATIONALE**

The correct answer is choice (C). Two times  $x$  can be represented as  $2x^2$  and one-fourth of  $x$  can be represented as  $\frac{x}{4}$ . The sum of those terms can be represented as  $2x^2 + \frac{x}{4}$  so the equality can be represented as  $2x + \left(\frac{x}{4}\right)^2 = 5$ .

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	9	Geometry and Spatial Sense	9.MA.GS.4	1

Quadrilateral  $PQRS \cong$  Quadrilateral  $WXYZ$  and  $\overline{RS} \cong \overline{MN}$ . If  $MN = 8$  centimeters, which of the following segments must also have a length of 8 centimeters?

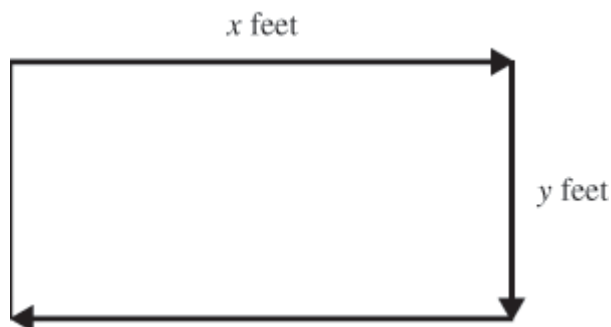
- (A)  $\overline{WZ}$
- (B)  $\overline{YZ}$
- (C)  $\overline{XY}$
- (D)  $\overline{WX}$

**RATIONALE**

The correct answer is choice (B). It is given that  $\overline{RS} \cong \overline{MN}$ , and by congruent figures,  $\overline{RS} \cong \overline{YZ}$ ; therefore,  $\overline{MN} \cong \overline{YZ}$ .

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	9	Numbers and Number Relationships	9.MA.NNR.4	3

The diagram shown below represents a rectangular field. Jennifer walked around three sides of the field as indicated by the arrows.



Jennifer walked an odd number of feet, and the area of the field is an even number of square feet. If  $x$  and  $y$  represent whole numbers, which of the following statements must be true?

- A The variable  $x$  represents an even number and the variable  $y$  represents an odd number.
- B The variable  $x$  represents an odd number and the variable  $y$  represents an even number.
- C The variable  $x$  and the variable  $y$  both represent even numbers.
- D The variable  $x$  and the variable  $y$  both represent odd numbers.

#### RATIONALE

The correct answer is choice (A). The sum of two even numbers or two odd numbers is always even. The length Jennifer has walked is  $2x + y$ .  $2x$  is always even, so  $y$  must be odd in order for the length she walked to be odd. In order for the area to be even,  $x$  must be even, since an even times an odd is even.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	9	Numbers and Number Relationships	9.MA.NNR.3	2

For what values of  $n$  is  $\frac{1}{n} < 1$  true?

- (A) All whole numbers
- (B) All positive whole numbers
- (C) All natural numbers except  $n = 1$
- (D) All positive real numbers except  $n = 1$

**RATIONALE**

The correct answer is choice (C). If  $n$  is positive, the solution to the inequality is  $n > 1$ . If  $n$  is negative, the statement is always true, but none of the choices include negative numbers. The only choice that guarantees the truth of the inequality is choice C, since all natural numbers except  $n = 1$  are greater than 1. (Note:  $n$  cannot equal 0 since division by 0 is undefined).

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Quantitative Reasoning	9	Analysis	9.QR.A.3	2

The mean of the data set  $\{85, 92, 88, n\}$  is greater than 90.

A	B
$n$	94

- The quantity in Column A is greater.
- The quantity in Column B is greater.
- The two quantities are equal.
- There is not enough information to tell which is greater.

**RATIONALE**

The mean of the data is greater than 90, giving the inequality  $\frac{85+92+88+n}{4} > 90$ . Since  $95 > 94$ , the value in column A is larger than the value in column B.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Quantitative Reasoning	9	Analysis	9.QR.A.2	3

The line with the equation  $2x - 3y = 6$  is graphed on a coordinate plane.

**A**

The  $x$ -coordinate of the  $x$ -intercept on the graph

**B**

The  $y$ -coordinate of the  $y$ -intercept on the graph

- The quantity in Column A is greater.
- The quantity in Column B is greater.
- The two quantities are equal.
- There is not enough information to tell which is greater.

#### RATIONALE

The  $x$ -intercept of a line is the point at which the line intersects the  $x$ -axis on a coordinate plane. All the points on  $x$ -axis have a zero  $y$ -coordinate. Therefore, to find the  $x$ -intercept of a line, we set  $y = 0$  in the equation of the line, and solve for  $x$ . Setting  $y = 0$  in the equation shown gives  $2x = 6$ , so  $x = 3$ . Similarly, to find the  $y$ -intercept of a line, we set  $x = 0$  in the equation of the line, and solve for  $y$ . Setting  $x = 0$  in the equation shown gives  $-3y = 6$ , so  $y = -2$ . It follows that the quantity in column A is greater than the quantity in column B. Choice A is correct.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Quantitative Reasoning	9	Comparison	9.QR.C.1	2

In the equation below,  $P$  represents the number of points scored in a car racing video game, and  $c$  represents the number of cars passed during the game.

$$P = 3,000 + 50c$$

Niklas scored 7,400 points and Raul scored 3,800 points playing this game. How many more cars did Niklas pass than Raul?

- A 12
- B 16
- C 72
- D 88

**RATIONALE**

From the equation given, it can be concluded that each player of the video game earns 50 points for every car the player passes during the game. Since the difference in points that Niklas and Raul scored is  $7,400 - 3,800 = 3,600$ , Niklas has passed  $\frac{3600}{50} = 72$  more cars than Raul. (It should be noted that each player started with 3,000 points. Niklas scored 4,400 points and Raul scored 800 points beyond the initial 3,000 points. The difference between those amounts is the same as the difference between 7400 and 3800.) Choice C is correct.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Quantitative Reasoning	9	Extensions/Generalizations	9.QR.EG.1	3

*A ball was dropped from an initial height of 125 centimeters. After the first bounce, the ball rose to a maximum height of 100 centimeters. After the second bounce, the ball rose to a maximum height of 80 centimeters. If the maximum height of the ball after each bounce continues to follow the same exponential pattern, what will be the maximum height of the ball after the third bounce?*

- A 32 centimeters
- B 57 centimeters
- C 64 centimeters
- D 65 centimeters

**RATIONALE**

An exponential pattern is a pattern in which each successive term changes by the same factor. For the situation described in the problem, the initial height of the ball was 125 cm. After the first bounce, the maximum height of the ball was 100 cm, and after the second bounce, the maximum height was 80 cm. This means the maximum of the height after each bounce is decreased by 20%, or by a factor of  $\frac{4}{5}$ . Therefore, the maximum height of the ball after the third bounce will be  $\frac{4}{5}$  of 80 cm, which is 64 cm. Choice C is correct.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Quantitative Reasoning	9	Extensions/Generalizations	9.QR.EG.1	2

In a certain numeric sequence, each term after the second term is the sum of the previous two terms. The first 10 terms in this sequence are shown below.

1, 0.5, 1.5, 2, 3.5, 5.5, 9, 14.5, 23.5, 38, ...

Exactly how many of the first 40 terms in this sequence are whole numbers?

- A 13
- B 14
- C 16
- D 20

**RATIONALE**

The 1st, 4th, 7th, ... terms in the sequence are whole numbers. So, any term in the sequence whose location is given by  $1 + 3(n - 1)$ , where  $n$  is a natural number, will be whole. If  $1 + 3(n - 1) = 40$ , then  $n = 14$ . Choice B is correct.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	9	Analysis	9.RC.A.2	3

### Scarecrow's Song

At his neck, legs of jeans, and ends of sleeves,  
 Haphazardly bloom the bouquets of straw,  
 The chaff the farmer stuffed inside  
*Line* To make crows believe  
 5 It was a human under that hat,  
 And not just castoff clothes tottering on a broom.

How can my camera capture that personality,  
 The burlap face with coat-button eyes wide open,  
 And, sewn in red thread, stitched lips  
 10 Pursued judgmentally?  
 It seemed I had offended the odd fellow  
 For not tucking gear under my wing, for not flying,

Flying like cawing crows from green leaves.  
 Always I try to capture a person's nature  
 15 In my photos. They sit, smile, pose,  
 But not so this one. He waves with every breeze;  
 Limbs twitch with his will to walk, hurry, hasten.  
 There is too much life in him to stand still.

Seeing the trim farm, I know he measures up—  
 20 In character at least—to those who made him.  
 Each day has its harvest of work. They despair  
 That the body, with no stick supports, tires, wearies.  
 So they fashion what they admired,  
 A homemade hand to toil night and day.

25 What would I title a photo of this thoughtful drone?  
 "A Hard Day's Work?" "Guardian?" No. No.  
 One never knows what goes on behind  
 Even button eyes. Pain? Complaint? Rebellion?  
 I imagine, as wind slips like snakes through the corn,  
 30 A raspy voice from the shivering scarecrow:  
*Come, crows,  
 And welcome!  
 Flock among  
 My arms.*

35 *Spread your shadow  
 As wide as the sky,  
 As deep as night  
 In this green nest.  
 Take corn for your young.*  
 40 *Welcome!*

I leave the field to its sounds and sentry.  
A camera is useless for this fellow,  
Too animate, too full of life.  
Better to return to less demanding photography,  
45 Where people pose like dolls  
And smile on command.

Yet . . . perhaps they, too, with faces  
Sewn in place for my camera,  
Conceal joy and longing, stories, and songs  
50 That, if we could but experience, would amaze:  
Next to their tales and tunes,  
How would my photographs pale!

*In lines 25–28, what is the primary reason the speaker does not want to title a photo of the scarecrow?*

- Ⓐ He cannot be certain how the photograph will look.
- Ⓑ He is more comfortable taking photos of animals.
- Ⓒ He cannot be certain he knows what a scarecrow might think.
- Ⓓ He is more comfortable working with real people.

#### **RATIONALE**

The correct answer to this question is choice C. In lines 15–16, the speaker considers some possible titles for a photograph of the scarecrow and rejects both of them. Then, in lines 27–28, the speaker explains why, “One never knows what goes on behind/Even button eyes. Pain? Complaint? Rebellion?” These lines directly suggest the statement in choice C. There is no suggestion in the poem that the speaker struggles with a title for the photograph of the scarecrow for any of the reasons in the other choices.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	9	Analysis	9.RC.A.5	3

### Scarecrow's Song

At his neck, legs of jeans, and ends of sleeves,  
Haphazardly bloom the bouquets of straw,  
The chaff the farmer stuffed inside

*Line* To make crows believe

5 It was a human under that hat,  
And not just castoff clothes tottering on a broom.

How can my camera capture that personality,  
The burlap face with coat-button eyes wide open,  
And, sewn in red thread, stitched lips

10 Pursued judgmentally?

It seemed I had offended the odd fellow  
For not tucking gear under my wing, for not flying,

Flying like cawing crows from green leaves.  
Always I try to capture a person's nature

15 In my photos. They sit, smile, pose,  
But not so this one. He waves with every breeze;  
Limbs twitch with his will to walk, hurry, hasten.  
There is too much life in him to stand still.

Seeing the trim farm, I know he measures up—  
20 In character at least—to those who made him.  
Each day has its harvest of work. They despair  
That the body, with no stick supports, tires, wearies.  
So they fashion what they admired,  
A homemade hand to toil night and day.

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30 A raspy voice from the shivering scarecrow:

*Come, crows,  
And welcome!  
Flock among  
My arms.*

35 *Spread your shadow  
As wide as the sky,  
As deep as night  
In this green nest.  
Take corn for your young.*

40 *Welcome!*

I leave the field to its sounds and sentry,  
A camera is useless for this fellow,  
Too animate, too full of life.  
Better to return to less demanding photography,  
45 Where people pose like dolls  
And smile on command.

Yet . . . perhaps they, too, with faces  
Sewn in place for my camera,  
Conceal joy and longing, stories, and songs  
50 That, if we could but experience, would amaze:  
Next to their tales and tunes,  
How would my photographs pale!

*Which of the following words from lines 25–30 foreshadows the details of the song the speaker imagines the scarecrow singing?*

- Ⓐ Drone
- Ⓑ Pain
- Ⓒ Complaint
- Ⓓ Rebellion

#### **RATIONALE**

The correct answer to this question is choice D. First the reader must look carefully at the song the speaker imagines the scarecrow singing, in lines 31–40. In this “song” the speaker imagines that the scarecrow sings a song welcoming the crows to the corn field and inviting them to feed on the farmer’s corn. Because the whole purpose of a scarecrow is to prevent the crows and other birds from eating the farmer’s corn, the word from lines 25–30 that “foreshadows” or suggests the scarecrow song the speaker imagines is choice D. If the scarecrow were to sing a song of invitation and welcome to the crows, it would be an act of rebellion against the people who created him and his reason for being in the field.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	9	Analysis	9.RC.A.6	3

### Scarecrow's Song

At his neck, legs of jeans, and ends of sleeves,  
 Haphazardly bloom the bouquets of straw,  
 The chaff the farmer stuffed inside  
*Line* To make crows believe  
 5 It was a human under that hat,  
 And not just castoff clothes tottering on a broom.

How can my camera capture that personality,  
 The burlap face with coat-button eyes wide open,  
 And, sewn in red thread, stitched lips  
 10 Pursued judgmentally?  
 It seemed I had offended the odd fellow  
 For not tucking gear under my wing, for not flying,

Flying like cawing crows from green leaves.  
 Always I try to capture a person's nature  
 15 In my photos. They sit, smile, pose,  
 But not so this one. He waves with every breeze;  
 Limbs twitch with his will to walk, hurry, hasten.  
 There is too much life in him to stand still.

Seeing the trim farm, I know he measures up—  
 20 In character at least—to those who made him.  
 Each day has its harvest of work. They despair  
 That the body, with no stick supports, tires, wearies.  
 So they fashion what they admired,  
 A homemade hand to toil night and day.

25 What would I title a photo of this thoughtful drone?  
 "A Hard Day's Work?" "Guardian?" No. No.  
 One never knows what goes on behind  
 Even button eyes. Pain? Complaint? Rebellion?  
 I imagine, as wind slips like snakes through the corn,  
 30 A raspy voice from the shivering scarecrow:  
*Come, crows,  
 And welcome!  
 Flock among  
 My arms.*

35 *Spread your shadow  
 As wide as the sky,  
 As deep as night  
 In this green nest.  
 Take corn for your young.*  
 40 *Welcome!*

I leave the field to its sounds and sentry.  
A camera is useless for this fellow,  
Too animate, too full of life.  
Better to return to less demanding photography,  
45 Where people pose like dolls  
And smile on command.

Yet . . . perhaps they, too, with faces  
Sewn in place for my camera,  
Conceal joy and longing, stories, and songs  
50 That, if we could but experience, would amaze:  
Next to their tales and tunes,  
How would my photographs pale!

*What is unexpected or ironic about the speaker's description in lines 13–18?*

- A The scarecrow pays no attention to the speaker.
- B The scarecrow is more lively than the people.
- C The scarecrow is never still.
- D The scarecrow wants to escape the cornfield.

#### **RATIONALE**

The correct answer to this question is choice B. In these lines the speaker describes taking photographs this way, “Always I try to capture a person’s nature/In my photos.” Then, the speaker goes on to describe how people “sit, smile, pose” for photographs, but the scarecrow--a straw-stuffed doll made of old clothes--won’t be still for even a moment: “Limbs twitch with his will to walk, hurry, hasten./There is too much life in him to stand still” (lines 17–18). The real people, who are alive, sit still, and smile at the photographer, and pose. The doll has “too much life” to do any of these. Choice A states something that is true, but it is not unexpected--the scarecrow is not real, so he would not be expected to pay attention to the speaker. Choice C is also true, but not unexpected. Choice D states a possible conclusion the reader might draw from the speaker’s description, but it is not unexpected or even necessarily connected to what the speaker says.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	9	Explicit Information	9.RC.EI.1	3

### Scarecrow's Song

At his neck, legs of jeans, and ends of sleeves,  
 Haphazardly bloom the bouquets of straw,  
 The chaff the farmer stuffed inside  
*Line* To make crows believe  
 5 It was a human under that hat,  
 And not just castoff clothes tottering on a broom.

How can my camera capture that personality,  
 The burlap face with coat-button eyes wide open,  
 And, sewn in red thread, stitched lips  
 10 Pursed judgmentally?  
 It seemed I had offended the odd fellow  
 For not tucking gear under my wing, for not flying,

Flying like cawing crows from green leaves.  
 Always I try to capture a person's nature  
 15 In my photos. They sit, smile, pose,  
 But not so this one. He waves with every breeze;  
 Limbs twitch with his will to walk, hurry, hasten.  
 There is too much life in him to stand still.

Seeing the trim farm, I know he measures up—  
 20 In character at least—to those who made him.  
 Each day has its harvest of work. They despair  
 That the body, with no stick supports, tires, wearies.  
 So they fashion what they admired,  
 A homemade hand to toil night and day.

25 What would I title a photo of this thoughtful drone?  
 "A Hard Day's Work?" "Guardian?" No. No.  
 One never knows what goes on behind  
 Even button eyes. Pain? Complaint? Rebellion?  
 I imagine, as wind slips like snakes through the corn,  
 30 A raspy voice from the shivering scarecrow:  
*Come, crows,  
 And welcome!  
 Flock among  
 My arms.*

35 *Spread your shadow  
 As wide as the sky,  
 As deep as night  
 In this green nest.  
 Take corn for your young.*  
 40 *Welcome!*

I leave the field to its sounds and sentry.  
A camera is useless for this fellow,  
Too animate, too full of life.  
Better to return to less demanding photography,  
45 Where people pose like dolls  
And smile on command.

Yet . . . perhaps they, too, with faces  
Sewn in place for my camera,  
Conceal joy and longing, stories, and songs  
50 That, if we could but experience, would amaze:  
Next to their tales and tunes,  
How would my photographs pale!

Which of the following statements best expresses the speaker's realization in the last stanza?

- A People's faces can resemble those of scarecrows.
- B People reveal their true happiness when they smile.
- C People have more depth than photographs suggest.
- D People's stories can be told through photographs.

### **RATIONALE**

The correct answer to this question is choice C. The reader must remember that the speaker/photographer has left the cornfield to return to photographing people because the scarecrow was “too full of life” to be captured in a photograph. The speaker then describes how people “pose like dolls” for photographers—they are not at all full of life. But in the final stanza, the speaker reflects on this description of human subjects beginning with these lines: “Yet . . . perhaps they, too, with faces/Sewn in place for my camera” (lines 47–48). In this final stanza, the speaker realizes that the human subjects may also be “too full of life” to be completely captured in a photograph, as the final two lines of the poem suggest: “Next to their tales and tunes,/How would my photographs pale!” This is direct support for choice C. Choice A is part of the speaker's description, in lines 47–48 (“Yet . . . perhaps they, too, with faces/Sewn in place for my camera”), but this is not the realization the speaker comes to. Choices B and D are contradicted by the way the speaker describes human subjects when they are photographed.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	9	Explicit Information	9.RC.EI.3	3

### Scarecrow's Song

At his neck, legs of jeans, and ends of sleeves,  
 Haphazardly bloom the bouquets of straw,  
 The chaff the farmer stuffed inside

*Line* To make crows believe

5 It was a human under that hat,  
 And not just castoff clothes tottering on a broom.

How can my camera capture that personality,  
 The burlap face with coat-button eyes wide open,  
 And, sewn in red thread, stitched lips

10 Pursed judgmentally?  
 It seemed I had offended the odd fellow  
 For not tucking gear under my wing, for not flying,

Flying like cawing crows from green leaves.  
 Always I try to capture a person's nature

15 In my photos. They sit, smile, pose,  
 But not so this one. He waves with every breeze;  
 Limbs twitch with his will to walk, hurry, hasten.  
 There is too much life in him to stand still.

Seeing the trim farm, I know he measures up—

20 In character at least—to those who made him.  
 Each day has its harvest of work. They despair  
 That the body, with no stick supports, tires, wearies.  
 So they fashion what they admired,  
 A homemade hand to toil night and day.

25 What would I title a photo of this thoughtful drone?  
 "A Hard Day's Work?" "Guardian?" No. No.  
 One never knows what goes on behind  
 Even button eyes. Pain? Complaint? Rebellion?  
 I imagine, as wind slips like snakes through the corn,

30 A raspy voice from the shivering scarecrow:  
*Come, crows,  
 And welcome!  
 Flock among  
 My arms.*

35 *Spread your shadow  
 As wide as the sky,  
 As deep as night  
 In this green nest.  
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I leave the field to its sounds and sentry.  
 A camera is useless for this fellow,  
 Too animate, too full of life,  
 Better to return to less demanding photography,  
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 And smile on command.

Yet . . . perhaps they, too, with faces  
 Sewn in place for my camera,  
 Conceal joy and longing, stories, and songs  
 50 That, if we could but experience, would amaze:  
 Next to their tales and tunes,  
 How would my photographs pale!

The words “I know he measures up” in line 19 suggest that the scarecrow

- (A) is able to work night and day, while humans cannot
- (B) has difficulties accomplishing its work as humans do
- (C) needs external support, while a human does not
- (D) does its work as well as humans do theirs

#### **RATIONALE**

The correct answer to this question is choice D. To answer this question, the reader must look at lines 19–20: “Seeing the trim farm, I know he measures up—/In character at least—to those who made him.” The farm is “trim,” meaning well-tended. These lines suggest that the scarecrow “measures up”—compares favorably—to “those who made him”—the people who keep the farm “trim.” The rest of this stanza makes clear the comparison of the work the scarecrow does to that of the human farmers: “Each day has its harvest of work. They despair/That the body, with no stick supports, tires, wearies./So they fashion what they admired,/A homemade hand to toil night and day” (lines 21–15). In these lines, “they” are the farmers who made the scarecrow and who worried that it might tire because they did not use sticks to support a full body. Instead, they make a scarecrow that looks like a hand (look back at lines 1–3—this scarecrow has a head and then a bunch of legs of jeans and sleeves of shirts stuffed with straw—he looks like a head on top of a hand). And hands that work all the time, like their hands, are what they admire. Choice A is not correct—these lines directly contradict it, as well as choice B. Choice C is true, but it does not explain how the scarecrow “measures up” to the trim farm owners who created him.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Vocabulary	9	Application	9.VC.A.2	2

(1) Blue-jet lightning is one of those phenomena that engenders frustration in researchers and the general population alike. (2) Rarely sighted and nearly impossible to capture on film, blue jets will make you look at lightning in a whole new way—if you can spot one, that is.

(3) Not surprisingly, blue-jet lightning is blue—a spectacular, glowing blue, to be exact. (4) Don't worry: it won't ever strike the ground, because it travels up. (5) That's right—up. (6) Conical in shape, it starts at a point in a thundercloud and flares upward into the ionosphere at a nearly \_\_\_\_\_ speed—approximately 330,000 feet per second!

(7) These electric discharges occur only at high altitudes, making blue jets imperceptible from the ground. (8) Because blue-jet lightning has such a short duration and occurs above the cloud layer, there is scant evidence to earthbound observers that blue jets exist. (9) Scientists, however, will not be daunted. (10) They have devised a technique for recording these mystifying luminosities using super-sensitive cameras. (11) With their specialized equipment, scientists have caught images of blue-jet lightning in such diverse locations as Puerto Rico and Arkansas.

Which of the following words most nearly means the same as imperceptible in sentence 7?

- A unimportant
- B indiscernible
- C immaterial
- D irrelevant

#### **RATIONALE**

The correct answer is Choice B. Sentence 7 says that the fact that blue jets occur only at high altitudes makes them "imperceptible" at ground level. Things that occur in the atmosphere at high altitudes cannot be seen from the ground. Both the underlined word and Choice B mean invisible or impossible to see.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Vocabulary	9	Application	9.VC.A.3	2

(1) Blue-jet lightning is one of those phenomena that engenders frustration in researchers and the general population alike. (2) Rarely sighted and nearly impossible to capture on film, blue jets will make you look at lightning in a whole new way—if you can spot one, that is.

(3) Not surprisingly, blue-jet lightning is blue—a spectacular, glowing blue, to be exact. (4) Don't worry: it won't ever strike the ground, because it travels up. (5) That's right—up. (6) Conical in shape, it starts at a point in a thundercloud and flares upward into the ionosphere at a nearly \_\_\_\_\_ speed—approximately 330,000 feet per second!

(7) These electric discharges occur only at high altitudes, making blue jets imperceptible from the ground. (8) Because blue-jet lightning has such a short duration and occurs above the cloud layer, there is scant evidence to earthbound observers that blue jets exist. (9) Scientists, however, will not be daunted. (10) They have devised a technique for recording these mystifying luminosities using super-sensitive cameras. (11) With their specialized equipment, scientists have caught images of blue-jet lightning in such diverse locations as Puerto Rico and Arkansas.

Which of the following words means the *OPPOSITE* of the word diverse in sentence 11?

- (A) nearby
- (B) unique
- (C) identical
- (D) combined

#### **RATIONALE**

The correct answer is Choice C. The underlined word occurs in this phrase from sentence 11: "in such diverse locations as Puerto Rico and Arkansas." Puerto Rico and Arkansas are very different from each other and also far from each other. That makes Choice C an opposite of the underlined word as it is used in this sentence.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Vocabulary	9	Precision	9.VC.P.1	2

(1) Blue-jet lightning is one of those phenomena that engenders frustration in researchers and the general population alike. (2) Rarely sighted and nearly impossible to capture on film, blue jets will make you look at lightning in a whole new way—if you can spot one, that is.

(3) Not surprisingly, blue-jet lightning is blue—a spectacular, glowing blue, to be exact. (4) Don't worry: it won't ever strike the ground, because it travels up. (5) That's right—up. (6) Conical in shape, it starts at a point in a thundercloud and flares upward into the ionosphere at a nearly \_\_\_\_\_ speed—approximately 330,000 feet per second!

(7) These electric discharges occur only at high altitudes, making blue jets imperceptible from the ground. (8) Because blue-jet lightning has such a short duration and occurs above the cloud layer, there is scant evidence to earthbound observers that blue jets exist. (9) Scientists, however, will not be daunted. (10) They have devised a technique for recording these mystifying luminosities using super-sensitive cameras. (11) With their specialized equipment, scientists have caught images of blue-jet lightning in such diverse locations as Puerto Rico and Arkansas.

Which of the following words most precisely fills the blank in sentence 6?

- (A) puzzling
- (B) ridiculous
- (C) bizarre
- (D) inconceivable

#### RATIONALE

The correct answer is Choice D. In this sentence, the speed of blue-jet lightning is characterized by the word in the blank, which is defined by the phrase that comes after the blank, "approximately 330,000 feet per second!" The only word that fits in this context is Choice D--the speed given is so fast that it is almost hard to think about. Because the speed is known, Choice A is not appropriate, and the speed cannot appropriately be described by either Choice B or Choice C.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Verbal Reasoning	9	Analogical Reasoning	9.VR.AR.1	2

**ABHOR : DISLIKE ::**

- A irritate : appease
- B stunt : fluster
- C glorify : praise
- D offend : resent

#### **RATIONALE**

Choice C is correct because to abhor is to dislike someone or something to an extreme degree, just as to glorify is to praise someone or something to an extreme degree. Choices A, B, and D are incorrect because none of them shares this relationship.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Verbal Reasoning	9	Categorical Reasoning	9.VR.CR.2	2

*Which of the following words is the best heading for the others?*

- A canteen
- B goblet
- C container
- D beaker

**RATIONALE**

Choice C is correct because canteens, goblets, and beakers are different kinds of containers that are designed to hold liquids. Choices A, B, and D are incorrect because none of them is a general term that comprises the other three terms.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Verbal Reasoning	9	Logical Reasoning	9.VR.LR.1	3

*Among five siblings, Zach is the second oldest. Sarah is older than Bill and younger than Carl. If Anna is younger than Sarah, then it is certain that*

- A Bill is the youngest sibling
- B Carl is the oldest sibling
- C Sarah is the second youngest sibling
- D Anna is the third oldest sibling

**RATIONALE**

Choice B is correct, and choices A, C, and D are incorrect, because the information provided indicates that the five siblings are ordered from oldest to youngest in one of two ways: Carl, Zach, Sarah, Bill, Anna, OR Carl, Zach, Sarah, Anna, Bill.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Verbal Reasoning	9	Logical Reasoning	9.VR.LR.2	3

*Archaeologists have recently unearthed more artifacts from ancient Egyptian sites. These artifacts include ceramic pots with designs also found in sites belonging to other civilizations located far to the east. There is no evidence of Egyptians having created such designs on their own.*

*Which conclusion is best supported by this information?*

- A Ancient travelers brought ceramics from other parts of the world to Egypt.
- B Ancient leaders carefully preserved Egyptian artifacts for future study.
- C Ancient Egypt had the least contact with civilizations located to the east.
- D Ancient Egyptians depended on ceramics more than on other materials.

**RATIONALE**

Choice A is correct because it explains how the recently discovered ceramic pots could have gotten to ancient Egypt. Choices B, C, and D are incorrect because none of them addresses the issue of why ceramic pots with designs from other parts of the ancient world were recently discovered in Egypt.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Concepts and Skills	9	Purpose, Audience, Focus	9.WC.PAF.2	3

(1) Born in 1921 and destined to dance, Alicia Alonso became Cuba's premier ballerina by the age of fifteen. (2) By the age of nineteen, she had packed her bags, had left Cuba, and was living in New York and dancing on a Broadway stage.

(3) Alonso became a member of the Ballet Theatre of New York in 1940, the year it was founded. (4) The Ballet Theatre was the brainchild of Lincoln Kirstein, a scholar and dance enthusiast. (5) This company is now the famous New York City Ballet. (6) Alonso was one of its main performers and danced for years on New York stages as well as in theatres throughout Europe.

(7) Alonso's favorite dancing role was Giselle, a very challenging ballet. (8) Before dancing the part professionally, Alonso had listened to the music and practiced the steps with her fingers. (9) When the opportunity for the part of Giselle presented itself, Alonso tried out for it. (10) Much to her surprise, she got the part.

(11) In 1948, she returned to Cuba and founded the Ballet Alicia Alonso, known today as the National Ballet of Cuba. (12) Her choreographed versions of the great classics are still performed there to this day.

(13) Throughout Alonso's dancing career she had trouble with her sight. (14) As her problem worsened, dancers who performed with her had to be careful to avoid her blind spots. (15) Although her eyes continued to weaken as she grew older, she kept dancing up until the age of 74.

(16) During her lifetime she received many honors, including the honorary title "heroine" granted by the Cuban government. (17) She even traveled to Paris as Ambassador of Good Will for the United Nations Educational, Scientific and Cultural Organization. (18) No matter what role she was playing—prima ballerina, ballet director, or Ambassador of Good Will—Alicia Alonso was always a dedicated performer.

Which of the following sentences best contributes to the admiring tone of the passage?

- A Sentence 6
- B Sentence 10
- C Sentence 11
- D Sentence 17

#### RATIONALE

The correct answer is choice D. Sentences 6, 10, and 11 all present factual information, with no sense of the writer's response to these facts. Only in sentence 17 does the writer suggest just how big Alonso's achievements were by using the words "She even traveled to Paris. . . ." From the use of the word "even" the reader can infer that the writer is very impressed with Alicia Alonso, and admires her accomplishments.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Concepts and Skills	9	Supporting Details	9.WC.SD.3	2

(1) Born in 1921 and destined to dance, Alicia Alonso became Cuba's premier ballerina by the age of fifteen. (2) By the age of nineteen, she had packed her bags, had left Cuba, and was living in New York and dancing on a Broadway stage.

(3) Alonso became a member of the Ballet Theatre of New York in 1940, the year it was founded. (4) The Ballet Theatre was the brainchild of Lincoln Kirstein, a scholar and dance enthusiast. (5) This company is now the famous New York City Ballet. (6) Alonso was one of its main performers and danced for years on New York stages as well as in theatres throughout Europe.

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*Which of the following sentences could be deleted without a loss of important information?*

- A sentence 2
- B sentence 4
- C sentence 8
- D sentence 12

### **RATIONALE**

This question asks students to identify the sentence that does not contain information important to the passage. Choices A and C describe important events in Alicia Alonso's career, and D notes her continued relevance to the National Ballet of Cuba. Choice B mentions the founder of the Ballet Theatre of New York, which is not directly related to the life of Alicia Alonso. Therefore, B is the correct answer.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Concepts and Skills	9	Supporting Details	9.WC.SD.2	3

(1) Born in 1921 and destined to dance, Alicia Alonso became Cuba's premier ballerina by the age of fifteen. (2) By the age of nineteen, she had packed her bags, had left Cuba, and was living in New York and dancing on a Broadway stage.

(3) Alonso became a member of the Ballet Theatre of New York in 1940, the year it was founded. (4) The Ballet Theatre was the brainchild of Lincoln Kirstein, a scholar and dance enthusiast. (5) This company is now the famous New York City Ballet. (6) Alonso was one of its main performers and danced for years on New York stages as well as in theatres throughout Europe.

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(16) During her lifetime she received many honors, including the honorary title "heroine" granted by the Cuban government. (17) She even traveled to Paris as Ambassador of Good Will for the United Nations Educational, Scientific and Cultural Organization. (18) No matter what role she was playing—prima ballerina, ballet director, or Ambassador of Good Will—Alicia Alonso was always a dedicated performer.

*The most likely reason the author includes the details in sentences 13 through 15 is to*

- A explain the cause of Alonso's vision problem
- B highlight Alonso's ability to overcome obstacles
- C show how other dancers felt about performing with Alonso
- D describe the steps Alonso took to compensate for weak vision

### **RATIONALE**

This question asks students to select the most likely reason the author included the details of Alonso's vision problems in sentences 13 through 15. Choices A, C, and D are not included in the selected sentences; only B states a likely reason for the details. Therefore, choice B is the correct answer.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Mechanics	9	Spelling, Capitalization, and Punctuation	9.WM.SCP.1	2

(1) In 1891, Dr. James Naismith, an instructor at what would eventually become Springfield College in Springfield, Massachusetts, was asked by his employer to devise a sport that could be played indoors during the frigid New England winters. (2) Naismith did not want to develop a game that relied exclusively on student brute strength; the sport needed to be one that utilized skill. (3) Many of the good sporting ideas had already been developed football, soccer, hockey--and if these games had caught on, Naismith thought, why not pluck elements from each of them and give them a twist?

(4) Naismith grabbed a soccer ball and two wooden peach baskets. (5) The peach baskets, called "goals" by Naismith, are nailed to the balconies at either end of the school gymnasium. (6) Eighteen students were divided into two nine member teams, and the teams were instructed that the object of the game was to sink the ball into the opposing team's basket. (7) Whenever a player sank the ball into the opponents' basket, some unlucky person on the opponents' team had to climb a ladder to retrieve the ball. (8) In Naismith's original thirteen rules, players could "bat" the ball using their hands (but not one's fists), striking or tripping an opponent was strictly prohibited, and players were required to throw the ball from where they caught it unless they were "running at good speed."

(9) The popularity of the new sport, fittingly named basketball, grew quickly. (10) It was played by women at Smith College in 1892, and, in 1936, it became part of the Berlin Olympics. (11) In 1948, the National Wheelchair Basketball Association was initiated, opening the sport to many paralyzed World War II veterans. (12) Today, basketball has changed extensively from its origins. (13) No more soccer balls and peach baskets--basketball has become one of the world's most popular sports.

*Between which two words in sentence 6 should a hyphen be inserted?*

- A Between "two" and "nine"
- B Between "nine" and "member"
- C Between "member" and "teams"
- D Between "opposing" and "team's"

### RATIONALE

#### Content Category, Punctuation

Choice B is correct. The words "nine" and "member" are what is known as a compound adjective consisting of two or more words that are read as one and that function as a single adjective.

Hyphens are regularly used to punctuate compound adjectives to prevent misreading. In this case, it needs to be clear that each of two teams consists of nine members. The other choices are not compound adjectives and so should not be punctuated with a hyphen.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Mechanics	9	Spelling, Capitalization, and Punctuation	9.WM.SCP.3	2

Comic books just aren't for kids anymore. When I started reading comics at the tender age of seven, good always triumphed over evil, the hero usually walked away unscathed to fight another day. The characters stood for something. Call it something as corny as the American way—\_\_\_\_\_ from heroes like Superman, Wonder Woman, the Avengers, the Fantastic Four, and the Justice League of America, I learned that playing fair is the only way to play. These heroes won through brains and the sheer force of their morality. Realistic? No, but I'd take them over today's most popular characters, \_\_\_\_\_ fight on the same level as the villains, sometimes stooping even lower. The code of honor in comics nowadays \_\_\_\_\_ to be an eye for an eye; today's heroes will kill as they have to, without compunction.

One comic book currently published that comes closest to capturing the noble, truer-than-blue heroes is DC's All Star Squadron, a series set appropriately enough during the second World War, perhaps the very last time in history that the United States had a clear sense of its moral righteousness.

*How should the title in lines 24–25 be written?*

- A All-Star Squadron
- B All-Star-Squadron
- C "All-Star Squadron"
- D *All-Star Squadron*

#### **RATIONALE**

Choice D is the correct choice. A book title should be set in italics. Choices A and B are incorrect, since they do not include the required italics. Choice C is incorrect. Although some titles, such as those of songs, are placed in quotation marks, book titles must be italicized.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Mechanics	9	Usage	9.WM.U.1	2

(1) In 1891, Dr. James Naismith, an instructor at what would eventually become Springfield College in Springfield, Massachusetts, was asked by his employer to devise a sport that could be played indoors during the frigid New England winters. (2) Naismith did not want to develop a game that relied exclusively on student brute strength; the sport needed to be one that utilized skill. (3) Many of the good sporting ideas had already been developed football, soccer, hockey--and if these games had caught on, Naismith thought, why not pluck elements from each of them and give them a twist?

(4) Naismith grabbed a soccer ball and two wooden peach baskets. (5) The peach baskets, called "goals" by Naismith, are nailed to the balconies at either end of the school gymnasium. (6) Eighteen students were divided into two nine member teams, and the teams were instructed that the object of the game was to sink the ball into the opposing team's basket. (7) Whenever a player sank the ball into the opponents' basket, some unlucky person on the opponents' team had to climb a ladder to retrieve the ball. (8) In Naismith's original thirteen rules, players could "bat" the ball using their hands (but not one's fists), striking or tripping an opponent was strictly prohibited, and players were required to throw the ball from where they caught it unless they were "running at good speed."

(9) The popularity of the new sport, fittingly named basketball, grew quickly. (10) It was played by women at Smith College in 1892, and, in 1936, it became part of the Berlin Olympics. (11) In 1948, the National Wheelchair Basketball Association was initiated, opening the sport to many paralyzed World War II veterans. (12) Today, basketball has changed extensively from its origins. (13) No more soccer balls and peach baskets--basketball has become one of the world's most popular sports.

Which of the following pronouns is used incorrectly in sentence 8?

- A their
- B one's
- C they
- D it

### RATIONALE

#### Content Category, Usage/Pronouns

Choice B is correct. The plural pronoun "their" is needed to refer correctly to the plural noun "players." Choice A is incorrect. The plural pronoun "their," in the phrase "their hands," is used correctly to refer to the plural noun "players." Choice C is incorrect. The plural pronoun "they" is used correctly to refer to the plural noun "players." Choice D is incorrect. The singular pronoun "it" is used correctly to refer to the singular noun "the ball."

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Mechanics	9	Usage	9.WM.U.2	2

(1) In 1891, Dr. James Naismith, an instructor at what would eventually become Springfield College in Springfield, Massachusetts, was asked by his employer to devise a sport that could be played indoors during the frigid New England winters. (2) Naismith did not want to develop a game that relied exclusively on student brute strength; the sport needed to be one that utilized skill. (3) Many of the good sporting ideas had already been developed football, soccer, hockey--and if these games had caught on, Naismith thought, why not pluck elements from each of them and give them a twist?

(4) Naismith grabbed a soccer ball and two wooden peach baskets. (5) The peach baskets, called "goals" by Naismith, are nailed to the balconies at either end of the school gymnasium. (6) Eighteen students were divided into two nine member teams, and the teams were instructed that the object of the game was to sink the ball into the opposing team's basket. (7) Whenever a player sank the ball into the opponents' basket, some unlucky person on the opponents' team had to climb a ladder to retrieve the ball. (8) In Naismith's original thirteen rules, players could "bat" the ball using their hands (but not one's fists), striking or tripping an opponent was strictly prohibited, and players were required to throw the ball from where they caught it unless they were "running at good speed."

(9) The popularity of the new sport, fittingly named basketball, grew quickly. (10) It was played by women at Smith College in 1892, and, in 1936, it became part of the Berlin Olympics. (11) In 1948, the National Wheelchair Basketball Association was initiated, opening the sport to many paralyzed World War II veterans. (12) Today, basketball has changed extensively from its origins. (13) No more soccer balls and peach baskets--basketball has become one of the world's most popular sports.

Which of the following sentences has an error in verb tense?

- A Sentence 1
- B Sentence 5
- C Sentence 7
- D Sentence 13

### RATIONALE

#### Content Category, Usage/Verb Form

Choice B is correct. A past-tense verb ("were") is needed to indicate an action that happened in the past ("The peach baskets . . . were nailed"). None of the other choices contains an error in verb tense.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	10	Algebra	10.MA.A.4	2

If  $x^2y - xy = 16$  and  $xy = 4$ , what is the value of  $x$ ?

- 5
- 4
- 3
- 2

**RATIONALE**

The correct answer is choice (A). The equation can be rewritten as  $x(xy) - xy = 16$ . Once you substitute 4 for  $xy$ , the problem can be solved for  $x$ :  $x(4) - 4 = 16$ ,  $4x = 20$ ,  $x = 5$ .

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	10	Data Analysis, Statistics, and Probability	10.MA.DSP.2	3

Two high school science classes recorded the data shown from experiments.

DATA FROM EXPERIMENTS

Set P	Set Q
20	20
23	21
25	25
27	29
30	30

Which of the following statements is true?

- A The ranges of Set P and Set Q are the same, but Set Q has a higher standard deviation than Set P.
- B The ranges of Set P and Set Q are the same, but Set P has a higher standard deviation than Set Q.
- C The range and the standard deviation of Set P and Set Q are the same.
- D Set Q has a higher range and standard deviation than Set P.

**RATIONALE**

The range for each set can be determined by subtracting the smallest value in the set from the largest value in the set. In both Set P and Set Q, the largest value is 30 and the smallest value is 20, therefore the range for both sets is 10. The standard deviation of a set is a measure of spread of the data set about the mean. Set P has a smaller standard deviation because the values 23 and 27 are closer to the mean than the values of 21 and 29 are to the mean of Set Q, and thus 21 and 29 in Set Q create a larger value when calculating the average of the squared differences from the mean. Therefore, the correct option is A.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	10	Functions	10.MA.F.4	2

The first four terms of an arithmetic sequence are shown below.

5, 12, 19, 26, . . .

Which of the following equations can be used to find  $y$ , the value of the  $n$ th term in this sequence?

A  $y = 3n + 2$

B  $y = 5n + 7$

C  $y = 7n - 2$

D  $y = 9n - 10$

**RATIONALE**

The correct answer is C. The common difference is 7 and the first term is 5, so the  $n$ th term will be  $5 + 7(n - 1)$ , which equals  $7n - 2$ , choice C.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	10	Functions	10.MA.F.4	2

The value of a car decreases by 10% each year. Which of the following functions can be used to determine the value, in euros, of a car in  $t$  years if its current value is 30,000 euros?

A  $f(t) = 30,000(0.1)^t$

B  $f(t) = 30,000(0.9)^t$

C  $f(t) = 30,000(1 - 0.1^t)$

D  $f(t) = 30,000(1 - 0.9^t)$

**RATIONALE**

The correct answer is B. Since 10% of the value is lost each year, the value can be determined by a decreasing exponential function with base of  $(1 - 0.10)$ , exponent  $t$ , and initial amount 30,000.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	10	Functions	10.MA.F.2	2

The table shown gives values for two functions,  $f(x)$  and  $g(x)$ .

$x$	-2	0	2	4	6	8
$f(x)$	2	0	6	20	42	72
$g(x)$	-4	2	8	14	20	26

Based on the values in the table, what is  $g(f(2))$ ?

- (A) 14
- (B) 20
- (C) 48
- (D) 72

**RATIONALE**

The correct answer is B. The value of  $f(2) = 6$ , then  $g(6) = 20$ .

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Mathematics Achievement	10	Geometry and Spatial Sense	10.MA.GS.3	3

Two cylinders have the same height of 20 centimeters. The radius of one cylinder is 1 centimeter greater than the radius of the other cylinder. If the volume of the smaller cylinder is  $320\pi$  cubic centimeters, what is the volume, in cubic centimeters, of the larger cylinder?

- A  $321\pi$
- B  $340\pi$
- C  $400\pi$
- D  $500\pi$

**RATIONALE**

The correct answer is D.

$$320\pi = \pi r^2(20)$$

$$16 = r^2$$

$$4 = r$$

Then the radius of the other cylinder would be 5;  $\pi(5)^2(20) = 500\pi$  .c

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Quantitative Reasoning	10	Analysis	10.QR.A.1	2

Which of the following sets gives all the solutions to  $|2x + 3| - x \leq 4$ ?

Ⓐ  $\left\{ x \mid -1 \leq x \leq \frac{7}{3} \right\}$

Ⓑ  $\{ x \mid -1 \leq x \leq 1 \}$

Ⓒ  $\left\{ x \mid -\frac{7}{3} \leq x \leq \frac{7}{3} \right\}$

Ⓓ  $\left\{ x \mid -\frac{7}{3} \leq x \leq 1 \right\}$

**RATIONALE**

The inequality shown can be rewritten as  $|2x + 3| \leq x + 4$ , which is equivalent to  $2x + 3 \leq x + 4$  and  $2x + 3 \geq -x - 4$ . The first inequality is equivalent to  $x \leq 1$  and the second is equivalent to  $3x \geq -7$ , or  $x \geq -\frac{7}{3}$ . Since the original inequality is equivalent with both these inequalities simultaneously, the solution of the original inequality is all values of  $x$  such that  $-\frac{7}{3} \leq x \leq 1$ . Choice D is correct.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Quantitative Reasoning	10	Analysis	10.QR.A.3	3

*A data set has a range of 10. A second data set was created by multiplying each value in the first data set by 3 and then adding 5 to the product. What is the range of the second data set?*

- A 10
- B 15
- C 30
- D 35

**RATIONALE**

The range of a data set is the difference between the greatest and least values in the set. If the range of the first data set is 10 and its least value is  $x$ , then its greatest value is  $x + 10$ . The least and greatest values in the second set can then be represented as  $3x + 5$  and  $3(x + 10) + 5$ , respectively. The range of the second set is then  $3(x + 10) + 5 - (3x + 5) = 3x + 35 - 3x - 5 = 30$ . The correct choice is C.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Quantitative Reasoning	10	Analysis	10.QR.A.2	3

Quadrilateral  $WXYZ$  has vertices  $W(-3, 1)$ ,  $X(-2, 3)$ ,  $Y(1, 2)$ , and  $Z(0, 0)$ . Which of the following best describes quadrilateral  $WXYZ$ ?

- A A rhombus that is not a square
- B A rectangle that is not a square
- C A quadrilateral that is not a parallelogram
- D A parallelogram that is not a rectangle or a rhombus

#### RATIONALE

Given the coordinates of the four vertices of the quadrilateral in a coordinate plane, the length of each side can be found using the distance formula. Using the distance formula,  $WX = \sqrt{1^2 + 2^2} = \sqrt{5}$ ;  $XY = \sqrt{3^2 + 1^2} = \sqrt{10}$ ,  $YZ = \sqrt{3^2 + 1^2} = \sqrt{10}$ , and  $XZ = \sqrt{3^2 + 1^2} = \sqrt{10}$ . By these calculations, the opposite sides of the quadrilateral have equal length, but the adjacent sides do not, so the quadrilateral is a parallelogram, but not a rhombus. Slopes must be checked to see if the figure is a rectangle. Calculating the slopes of the adjacent segments  $WX$  and  $WZ$  gives  $\frac{3-1}{-2-(-3)} = \frac{2}{1} = 2$  and  $\frac{1-0}{-3-0} = -\frac{1}{3}$ , respectively. Since the product of these slopes is not equal to  $-1$ , the two segments are not perpendicular. This means that  $WXYZ$  is a parallelogram that is not a rectangle or a rhombus. Choice D is correct.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Quantitative Reasoning	10	Analysis	10.QR.A.1	3

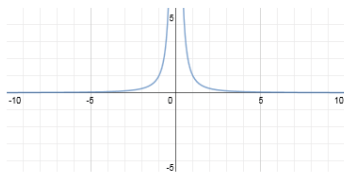
Which of the following statements is true regarding the equation  $y = \frac{1}{x^2}$ , given that  $x \neq 0$ ?

- Ⓐ When  $x > 0$ , the value of  $y$  increases as the value of  $x$  increases.
- Ⓑ When  $x < 0$ , the value of  $y$  increases as the value of  $x$  decreases.
- Ⓒ When  $x < 0$ , the value of  $y$  decreases as the value of  $x$  increases.
- Ⓓ When  $x > 0$ , the value of  $y$  decreases as the value of  $x$  increases.

#### RATIONALE

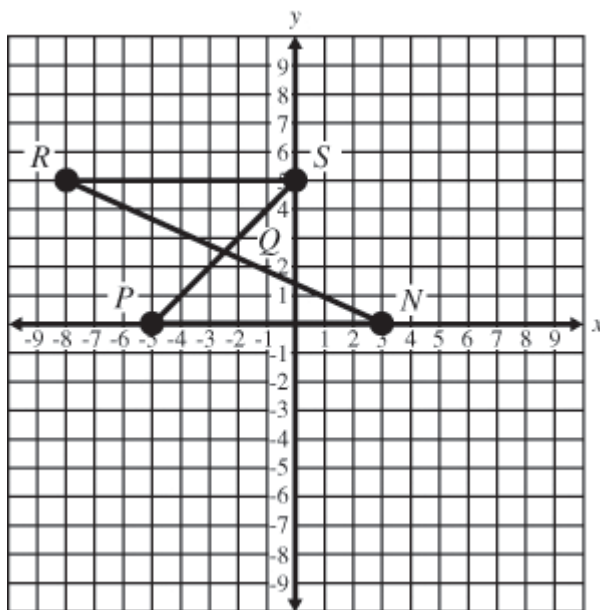
Of the statements given, only the statement in choice D is correct. When  $x$  is positive, the value of  $y$  decreases as the value of  $x$  increases. For example, when  $x = 1$ ,  $y = 1$ , and when  $x = 2$ ,  $y = \frac{1}{4}$ .

Also, the graph of the function, as shown below, clearly shows that as  $x$  gets larger,  $y$  gets closer to zero. The  $x$ -axis serves as an asymptote for the function.



SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Quantitative Reasoning	10	Analysis	10.QR.A.2	2

Points  $N$ ,  $P$ ,  $R$ , and  $S$  on the coordinate plane have coordinates that are integer values.



Which of the following statements is true?

- Ⓐ  $\triangle QRS \cong \triangle QPN$
- Ⓑ  $\triangle QRS \cong \triangle QNP$
- Ⓒ  $\triangle QRS \cong \triangle PQN$
- Ⓓ  $\triangle QRS \cong \triangle NQP$

#### RATIONALE

From the figure shown, it can be seen that  $RS = PN$ , and that segment  $RS$  is parallel to segment  $PN$ . This means the measures of both pairs of alternate interior angles are equal: angle  $R$  is congruent to angle  $N$ , and angle  $S$  is congruent to angle  $P$ . Therefore, triangle  $QRS$  is congruent to triangle  $QNP$  by the ASA condition for congruency of triangles.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	10	Analysis	10.RC.A.5	3

**Running Like a Fence, Dashing Like Rows**

All that I've known is outside this train window,  
 Running like a fence, dashing like rows—  
 Lines of beans and corn stalking,  
*Line* A young giant's agile walking, heel to toe,  
 5 The way I used to plant potatoes.

Until late yesterday afternoon  
 Called "time out" to my game,  
 I chopped and hoed those rows,  
 Knowing all weeds must go.  
 10 But today I myself must go away,

Leaving those fences I helped to build,  
 Knowing they will still guard the fields  
 Long after a new kind of work will claim  
 Me at the end of this journey by train.  
 15 Though, truth to tell, I wonder at the yield.

Corn is easy. When the soil warms,  
 You plant, fingers digging like worms  
 Into the crumble. When it's ripe  
 And the shocks in the wind have dried,  
 20 Work's reward shines golden in the sun.

All that I've known is outside this train window,  
 Running like a fence, dashing like rows—  
 I'm going away, but what crop will I sow?

Would that I could live both lives,  
 25 Stay and go, so wise I could unify  
 Country and city, college and farm,  
 Family and me, home and gone.  
 But longing and desire collide.

The cedar fence I built, its structure  
 30 Strong, ragged with bark, tersely  
 Announces our progress outside,  
 Seems to run, but, in truth, will abide,  
 Holding firm, rooted in the earth.

Far behind, as the train rides its rails,  
 35 Humming future-fast, but all is well.  
 I, too, have grown along with the corn,  
 And am rooted like the fence strong,

As I dream of the city and new fields to till.

I see my reflection in this train window,

40 I run like a fence, dash like rows,

Toward the harvest at the end of the road.

*Details in the poem support the conclusion that the speaker*

- A is frightened by life in the city
- B finds farm work unsatisfying
- C has always lived on the farm
- D knows what city life is like

#### **RATIONALE**

The correct answer to this question is choice C. The poem opens with this line: “All that I’ve known is outside this train window.” Following this line is a description of farm fields and the work the narrator has done on a farm. At line 21, the narrator says again, “All that I’ve known is outside this train window.” In lines 24–28, the narrator describes the conflict between what is familiar--the farm and family--and what will be new--the city and college, ending with the statement “But longing and desire collide”--the longing for what is familiar and the desire for something new. From these lines the reader can infer that only choice C is correct, and there is no support for choices A, B, or D. In line 38, the narrator makes clear that there is no fear associated with what is new--the city--“As I dream of the city and new fields to till.” And it is clear from the entire poem that the narrator both loves and longs for the life of the farm.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	10	Analysis	10.RC.A.6	3

### The Real Deal

- 1 In 1983, a tragic accident occurred at sea. A Coast Guard rescue helicopter reached the scene of a capsized ship and lowered a rescue basket to the crew members below. Due to hypothermia, the victims were unable to grab the basket and climb inside. By the time a Navy rescue ship arrived at the scene, thirty-one of thirty-four crew members had perished. In 1984, Congress mandated that the Coast Guard begin a new program to perform rescue operations.
- 2 The Coast Guard rescue swimmer training program, which lasts four months, is as mentally and physically challenging and rigorous as other military training programs, including Navy SEAL or Army Ranger training. Because it is so arduous, it has one of the highest drop-out rates of any special operations program in the military. In fact, fewer than half of the candidates who attempt the program are able to complete it. Successful candidates possess tremendous physical strength, stamina, and flexibility; they are also accomplished swimmers. Many candidates drop out of the program when they are faced with its extreme physical challenges, the fatigue, and the stressful situations. Those who fail to perform under these conditions are subsequently dismissed from the program.
- 3 The students who continue the program are expected to exercise strenuously each day and must also complete several programs of study. They are trained to use all of the rescue equipment, and they learn all about the aircraft on which they will serve. A three-week emergency medical training course, which teaches them to administer first-aid to victims on location and in the helicopter, must be completed as well.
- 4 Included in their requirements is a firm understanding of how to safely enter the water from the aircraft. Sometimes candidates will be lowered into the sea by a hoist, while at other times they will be required to free-fall into the water. They also learn multiple ways to approach, carry, and release a survivor. Clearly, the program requires extreme physical strength, as well as a studious mind.
- 5 Because of the success of the program, Coast Guard rescue swimmers can be found in many Coast Guard stations on the coasts of the United States. Thanks to this painstaking program, and the brave men and women who successfully earn the rank of rescue swimmer, countless people who might otherwise perish at sea are now brought safely back to land.

*The way the author describes the Coast Guard program suggests which of the following feelings?*

- A Sympathy for the recruits who do not qualify as rescue swimmers
- B Annoyance that the Coast Guard program is not better known
- C Skepticism about the place of the Coast Guard program among other military programs
- D Admiration for the skills and abilities of the Coast Guard rescue swimmers

**RATIONALE**

The correct answer to this question is choice D. Throughout the passage the author clearly expresses admiration for the people who can successfully complete the Coast Guard program. Note particularly, for example, the language used in paragraph 2 to describe the program and the recruits who take it on. Look as well at the final sentence of paragraph 4, “Clearly, the program requires extreme physical strength, as well as a studious mind.” And in the final sentence of the passage, the author says, “Thanks to this painstaking program, and the brave men and women who successfully earn the rank of rescue swimmer, countless people who might otherwise perish at sea are now brought safely back to land.” There is no support in the author's account of the Coast Guard program to support any of the other choices.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	10	Analysis	10.RC.A.5	3

**Running Like a Fence, Dashing Like Rows**

All that I've known is outside this train window,  
 Running like a fence, dashing like rows—  
 Lines of beans and corn stalking,  
*Line* A young giant's agile walking, heel to toe,  
 5 The way I used to plant potatoes.

Until late yesterday afternoon  
 Called "time out" to my game,  
 I chopped and hoed those rows,  
 Knowing all weeds must go.  
 10 But today I myself must go away,

Leaving those fences I helped to build,  
 Knowing they will still guard the fields  
 Long after a new kind of work will claim  
 Me at the end of this journey by train.  
 15 Though, truth to tell, I wonder at the yield.

Corn is easy. When the soil warms,  
 You plant, fingers digging like worms  
 Into the crumble. When it's ripe  
 And the shocks in the wind have dried,  
 20 Work's reward shines golden in the sun.

All that I've known is outside this train window,  
 Running like a fence, dashing like rows—  
 I'm going away, but what crop will I sow?

Would that I could live both lives,  
 25 Stay and go, so wise I could unify  
 Country and city, college and farm,  
 Family and me, home and gone.  
 But longing and desire collide.

The cedar fence I built, its structure  
 30 Strong, ragged with bark, tersely  
 Announces our progress outside,  
 Seems to run, but, in truth, will abide,  
 Holding firm, rooted in the earth.

Far behind, as the train rides its rails,  
 35 Humming future-fast, but all is well.  
 I, too, have grown along with the corn,  
 And am rooted like the fence strong,

As I dream of the city and new fields to till.

I see my reflection in this train window,

40 I run like a fence, dash like rows,

Toward the harvest at the end of the road.

The “harvest at the end of the road” in line 41 refers to the speaker’s

- A return home
- B fond memories
- C future life
- D family values

#### **RATIONALE**

The correct answer to this question is choice C. In the context of the poem, the last line quoted in the question must refer to the future. The narrator says, in lines 39–41, “I see my reflection in this train window,/ I run like a fence, dash like rows,/ Toward the harvest at the end of the road.” The reader knows that the narrator is riding the train toward the city and college, toward the “new kind of work” mentioned in line 13. None of the other choices makes sense in the context of this final stanza of a poem that describes the progress of both a physical and mental journey.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	10	Analysis	10.RC.A.3	3

**Running Like a Fence, Dashing Like Rows**

All that I've known is outside this train window,  
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Would that I could live both lives,  
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 And am rooted like the fence strong,

As I dream of the city and new fields to till.

I see my reflection in this train window,  
40 I run like a fence, dash like rows,  
Toward the harvest at the end of the road.

*The fence and the speaker are similar in that both*

- appear to be moving but are also rooted
- represent the challenges of life on a farm
- show signs of wear as they grow older
- emphasize a need to guard what one values

#### **RATIONALE**

The correct answer to this question is choice A. In order to answer this question, the reader must take a careful look at lines 29–38. In lines 32–33, the narrator describes the fence as something that “Seems to run, but in truth, will abide,/Holding firm, rooted in the earth.” Then, in lines 36–39 the narrator says, “I, too, have grown along with the corn,/And am rooted like the fence strong,/As I dream of the city and new fields to till.” What connects these two descriptions is expressed in choice A--the word “rooted” is used to describe both the fence and the narrator, and “seems to run” and “As I dream of the city and new fields to till” suggest apparent movement. These lines do not connect the speaker and the fence as choices B, C, or D suggest.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	10	Explicit Information	10.RC.EI.3	3

**Running Like a Fence, Dashing Like Rows**

All that I've known is outside this train window,  
 Running like a fence, dashing like rows—  
 Lines of beans and corn stalking,  
*Line* A young giant's agile walking, heel to toe,  
 5 The way I used to plant potatoes.

Until late yesterday afternoon  
 Called "time out" to my game,  
 I chopped and hoed those rows,  
 Knowing all weeds must go.  
 10 But today I myself must go away,

Leaving those fences I helped to build,  
 Knowing they will still guard the fields  
 Long after a new kind of work will claim  
 Me at the end of this journey by train.  
 15 Though, truth to tell, I wonder at the yield.

Corn is easy. When the soil warms,  
 You plant, fingers digging like worms  
 Into the crumble. When it's ripe  
 And the shocks in the wind have dried,  
 20 Work's reward shines golden in the sun.

All that I've known is outside this train window,  
 Running like a fence, dashing like rows—  
 I'm going away, but what crop will I sow?

Would that I could live both lives,  
 25 Stay and go, so wise I could unify  
 Country and city, college and farm,  
 Family and me, home and gone.  
 But longing and desire collide.

The cedar fence I built, its structure  
 30 Strong, ragged with bark, tersely  
 Announces our progress outside,  
 Seems to run, but, in truth, will abide,  
 Holding firm, rooted in the earth.

Far behind, as the train rides its rails,  
 35 Humming future-fast, but all is well.  
 I, too, have grown along with the corn,  
 And am rooted like the fence strong,

As I dream of the city and new fields to till.

I see my reflection in this train window,  
40 I run like a fence, dash like rows,  
Toward the harvest at the end of the road.

The phrase “I wonder at the yield” in line 15 suggests that the speaker feels

- (A) amazed by the harvest
- (B) uncertain about the future
- (C) curious about the city
- (D) overwhelmed by the work

#### **RATIONALE**

The correct answer to this question is choice B. To understand the phrase quoted in the question, the reader must examine its context from lines 13–15 of the poem: “Long after a new kind of work will claim/Me at the end of this journey by train/Though, truth to tell, I wonder at the yield.” These lines suggest that the speaker is unsure of the outcome of the “new kind of work” in a way that is not true of what is familiar--the work of planting and harvesting a crop on the farm. These lines do not suggest that the narrator is curious about the city or overwhelmed by “the new kind of work.” And because the uncertainty is about the “yield” or harvest, the narrator cannot be expressing what choice A states.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	10	Explicit Information	10.RC.EI.3	2

### The Real Deal

- 1 In 1983, a tragic accident occurred at sea. A Coast Guard rescue helicopter reached the scene of a capsized ship and lowered a rescue basket to the crew members below. Due to hypothermia, the victims were unable to grab the basket and climb inside. By the time a Navy rescue ship arrived at the scene, thirty-one of thirty-four crew members had perished. In 1984, Congress mandated that the Coast Guard begin a new program to perform rescue operations.
- 2 The Coast Guard rescue swimmer training program, which lasts four months, is as mentally and physically challenging and rigorous as other military training programs, including Navy SEAL or Army Ranger training. Because it is so arduous, it has one of the highest drop-out rates of any special operations program in the military. In fact, fewer than half of the candidates who attempt the program are able to complete it. Successful candidates possess tremendous physical strength, stamina, and flexibility; they are also accomplished swimmers. Many candidates drop out of the program when they are faced with its extreme physical challenges, the fatigue, and the stressful situations. Those who fail to perform under these conditions are subsequently dismissed from the program.
- 3 The students who continue the program are expected to exercise strenuously each day and must also complete several programs of study. They are trained to use all of the rescue equipment, and they learn all about the aircraft on which they will serve. A three-week emergency medical training course, which teaches them to administer first-aid to victims on location and in the helicopter, must be completed as well.
- 4 Included in their requirements is a firm understanding of how to safely enter the water from the aircraft. Sometimes candidates will be lowered into the sea by a hoist, while at other times they will be required to free-fall into the water. They also learn multiple ways to approach, carry, and release a survivor. Clearly, the program requires extreme physical strength, as well as a studious mind.
- 5 Because of the success of the program, Coast Guard rescue swimmers can be found in many Coast Guard stations on the coasts of the United States. Thanks to this painstaking program, and the brave men and women who successfully earn the rank of rescue swimmer, countless people who might otherwise perish at sea are now brought safely back to land.

Which of the following is *NOT* mentioned as a part of Coast Guard rescue swimmer training?

- A Learning how to free-fall from an aircraft into the water
- B Exercising strenuously every day
- C Training to perform minor surgery
- D Completing a number of academic programs of study

**RATIONALE**

The correct answer to this question is choice C. To answer this question, the reader must pay attention to the details given in paragraphs 3 and 4. Paragraph 3 mentions the kind of medical knowledge the rescue swimmers must have--how to administer first aid "on location and in the helicopter," but nothing is said about minor surgery. Each of the other choices is specifically mentioned in paragraph 3 or paragraph 4.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	10	Explicit Information	10.RC.EI.1	3

### The Real Deal

- 1 In 1983, a tragic accident occurred at sea. A Coast Guard rescue helicopter reached the scene of a capsized ship and lowered a rescue basket to the crew members below. Due to hypothermia, the victims were unable to grab the basket and climb inside. By the time a Navy rescue ship arrived at the scene, thirty-one of thirty-four crew members had perished. In 1984, Congress mandated that the Coast Guard begin a new program to perform rescue operations.
- 2 The Coast Guard rescue swimmer training program, which lasts four months, is as mentally and physically challenging and rigorous as other military training programs, including Navy SEAL or Army Ranger training. Because it is so arduous, it has one of the highest drop-out rates of any special operations program in the military. In fact, fewer than half of the candidates who attempt the program are able to complete it. Successful candidates possess tremendous physical strength, stamina, and flexibility; they are also accomplished swimmers. Many candidates drop out of the program when they are faced with its extreme physical challenges, the fatigue, and the stressful situations. Those who fail to perform under these conditions are subsequently dismissed from the program.
- 3 The students who continue the program are expected to exercise strenuously each day and must also complete several programs of study. They are trained to use all of the rescue equipment, and they learn all about the aircraft on which they will serve. A three-week emergency medical training course, which teaches them to administer first-aid to victims on location and in the helicopter, must be completed as well.
- 4 Included in their requirements is a firm understanding of how to safely enter the water from the aircraft. Sometimes candidates will be lowered into the sea by a hoist, while at other times they will be required to free-fall into the water. They also learn multiple ways to approach, carry, and release a survivor. Clearly, the program requires extreme physical strength, as well as a studious mind.
- 5 Because of the success of the program, Coast Guard rescue swimmers can be found in many Coast Guard stations on the coasts of the United States. Thanks to this painstaking program, and the brave men and women who successfully earn the rank of rescue swimmer, countless people who might otherwise perish at sea are now brought safely back to land.

Which of the following statements best expresses the primary focus of the passage?

- A Coast Guard recruits must successfully complete extremely rigorous training in order to qualify as rescue swimmers.
- B Congress was wise to mandate the creation of the Coast Guard rescue swimmer program.
- C Many candidates who wish to become Coast Guard rescue swimmers are not able to complete the difficult training.
- D The Navy proposed the idea to train Coast Guard recruits as rescue swimmers.

**RATIONALE**

The correct answer to this question is choice A. To correctly identify the primary focus of the passage the reader must consider the overall content of the passage. In this case, the first paragraph introduces the reason for the existence of the Coast Guard rescue swimmers.

Paragraphs 2–4 describe specific aspects of the rigorous training that is required for someone to become a rescue swimmer. Paragraph 5 ends the passage by commenting on the importance of these rigorously trained Coast Guard swimmers and the contribution their work makes to people's safety. Overall, this passage is about what is stated in choice A. It can be inferred from paragraph 5 that choice B is correct, but that is not the primary focus of the passage. Choice C is also an accurate statement, but it is mentioned as part of the larger main idea. There is no support for choice D in the passage.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	10	Explicit Information	10.RC.EI.3	3

### The Real Deal

- 1 In 1983, a tragic accident occurred at sea. A Coast Guard rescue helicopter reached the scene of a capsized ship and lowered a rescue basket to the crew members below. Due to hypothermia, the victims were unable to grab the basket and climb inside. By the time a Navy rescue ship arrived at the scene, thirty-one of thirty-four crew members had perished. In 1984, Congress mandated that the Coast Guard begin a new program to perform rescue operations.
- 2 The Coast Guard rescue swimmer training program, which lasts four months, is as mentally and physically challenging and rigorous as other military training programs, including Navy SEAL or Army Ranger training. Because it is so arduous, it has one of the highest drop-out rates of any special operations program in the military. In fact, fewer than half of the candidates who attempt the program are able to complete it. Successful candidates possess tremendous physical strength, stamina, and flexibility; they are also accomplished swimmers. Many candidates drop out of the program when they are faced with its extreme physical challenges, the fatigue, and the stressful situations. Those who fail to perform under these conditions are subsequently dismissed from the program.
- 3 The students who continue the program are expected to exercise strenuously each day and must also complete several programs of study. They are trained to use all of the rescue equipment, and they learn all about the aircraft on which they will serve. A three-week emergency medical training course, which teaches them to administer first-aid to victims on location and in the helicopter, must be completed as well.
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- 5 Because of the success of the program, Coast Guard rescue swimmers can be found in many Coast Guard stations on the coasts of the United States. Thanks to this painstaking program, and the brave men and women who successfully earn the rank of rescue swimmer, countless people who might otherwise perish at sea are now brought safely back to land.

Which of the following statements is supported by details in the passage?

- A Successful Coast Guard rescue swimmer candidates possess a remarkable degree of self-discipline.
- B Coast Guard rescue swimmer training takes longer than the training for other military branches.
- C Coast Guard rescue swimmers enjoy special privileges within the military.
- D The training program for Coast Guard rescue swimmers is a student-centered experiment.

**RATIONALE**

The correct answer to this question is choice A. This is the only choice that is supported by details stated in the passage. Choice B is not supported by the passage because the reader only knows that the Coast Guard rescue swimmer program takes 4 months to complete, but there is no information comparing this length of time with any other training program. Choices C and D are not supported by any details mentioned in the passage.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	10	Inference	10.RC.1.2	2

**Running Like a Fence, Dashing Like Rows**

All that I've known is outside this train window,  
 Running like a fence, dashing like rows—  
 Lines of beans and corn stalking,  
*Line* A young giant's agile walking, heel to toe,  
 5 The way I used to plant potatoes.

Until late yesterday afternoon  
 Called "time out" to my game,  
 I chopped and hoed those rows,  
 Knowing all weeds must go.  
 10 But today I myself must go away,

Leaving those fences I helped to build,  
 Knowing they will still guard the fields  
 Long after a new kind of work will claim  
 Me at the end of this journey by train.  
 15 Though, truth to tell, I wonder at the yield.

Corn is easy. When the soil warms,  
 You plant, fingers digging like worms  
 Into the crumble. When it's ripe  
 And the shocks in the wind have dried,  
 20 Work's reward shines golden in the sun.

All that I've known is outside this train window,  
 Running like a fence, dashing like rows—  
 I'm going away, but what crop will I sow?

Would that I could live both lives,  
 25 Stay and go, so wise I could unify  
 Country and city, college and farm,  
 Family and me, home and gone.  
 But longing and desire collide.

The cedar fence I built, its structure  
 30 Strong, ragged with bark, tersely  
 Announces our progress outside,  
 Seems to run, but, in truth, will abide,  
 Holding firm, rooted in the earth.

Far behind, as the train rides its rails,  
 35 Humming future-fast, but all is well.  
 I, too, have grown along with the corn,  
 And am rooted like the fence strong,

As I dream of the city and new fields to till.

I see my reflection in this train window,

40 I run like a fence, dash like rows,

Toward the harvest at the end of the road.

*Where is the speaker in the poem going?*

- A Away to college
- B To work on a train
- C Away on vacation
- D To work on a farm

#### **RATIONALE**

The correct answer to this question is choice A. To answer this question, the reader must pay careful attention to the progress of the journey the poem's narrator is describing. In lines 1–15, the narrator describes the view of all that he or she knows from the train window. In lines 13–14, the narrator says, “Long after a new kind of work will claim/Me at the end of this journey by train.” Then, at lines 24–26, the narrator says, “Would that I could live both lives/Stay and go, so wise I could unify/Country and city, college and farm.” It is from these lines that we know the narrator is leaving the farm for college.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Reading Comprehension	10	Inference	10.RC.I.1	3

**Running Like a Fence, Dashing Like Rows**

All that I've known is outside this train window,  
 Running like a fence, dashing like rows—  
 Lines of beans and corn stalking,  
*Line* A young giant's agile walking, heel to toe,  
 5 The way I used to plant potatoes.

Until late yesterday afternoon  
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Would that I could live both lives,  
 25 Stay and go, so wise I could unify  
 Country and city, college and farm,  
 Family and me, home and gone.  
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 Seems to run, but, in truth, will abide,  
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Far behind, as the train rides its rails,  
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 I, too, have grown along with the corn,  
 And am rooted like the fence strong,

As I dream of the city and new fields to till.

I see my reflection in this train window,

40 I run like a fence, dash like rows,

Toward the harvest at the end of the road.

*In which of the following lines of the poem is the speaker's conflict best expressed?*

- A Lines 6 through 10
- B Lines 16 through 20
- C Lines 24 through 28
- D Lines 34 through 38

#### **RATIONALE**

The correct answer to this question is choice C. The lines given in choice A describe what the speaker used to do on the farm. The lines given in choice B describe the absolute predictability of planting and harvesting on the farm. The lines given in choice D describe the speaker's growing sense of readiness to face the unknown future in the city and away from the farm. Only the lines given in choice C, which begin by saying, "Would that I could live both lives," deal directly with the speaker's feelings about both the past--the farm--and the future--college and city. Note, in particular, lines 25--26: "Stay and go, so wise I could unify/Country and city, home and gone."

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Vocabulary	10	Application	10.VC.A.2	2

*This is an excerpt from a manual that describes the presentation portion of a student project.*

(1) Once the fact-finding component of the student project is complete and informational slides have been prepared, students will \_\_\_\_\_ the presentation requirements. (2) Each student will use a wireless projector to enhance the overall presentation. (3) Since a lack of proficiency could impede the flow of the presentation, all students must demonstrate, as a prerequisite to this component, that they have learned how to operate the projector. (4) To avoid a possible system malfunction, students must \_\_\_\_\_ follow the directions for operating the projector.

Which of the following words means the **OPPOSITE** of impede in sentence 3?

- A assist
- B extend
- C remedy
- D balance

### **RATIONALE**

The correct answer is Choice A. Sentence 3 says, "Since a lack of proficiency could impede the flow of the presentation, all students must demonstrate, as a prerequisite to this component, that they have learned how to operate the projector." Students must demonstrate proficiency with the equipment before they are allowed to make the presentation, because a lack of proficiency could somehow negatively affect the presentation. The only word that could work in the context of sentence 3, as the **OPPOSITE** of the word "impede," is Choice A.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Vocabulary	10	Application	10.VC.A.2	2

*This is an excerpt from a manual that describes the presentation portion of a student project.*

(1) Once the fact-finding component of the student project is complete and informational slides have been prepared, students will \_\_\_\_\_ the presentation requirements. (2) Each student will use a wireless projector to enhance the overall presentation. (3) Since a lack of proficiency could impede the flow of the presentation, all students must demonstrate, as a prerequisite to this component, that they have learned how to operate the projector. (4) To avoid a possible system malfunction, students must \_\_\_\_\_ follow the directions for operating the projector.

Which of the following words most nearly means the same as prerequisite in sentence 3?

- A precaution
- B precondition
- C prevention
- D prescription

#### **RATIONALE**

The correct answer is Choice B. To make the correct choice, the reader must look carefully at both sentence 2 and sentence 3: "(2) Each student will use a wireless projector to enhance the overall presentation. (3) Since a lack of proficiency could impede the flow of the presentation, all students must demonstrate, as a prerequisite to this component, that they have learned how to operate the projector." To understand the underlined word from sentence 3, the reader has to connect "component" to "presentation." The only choice that makes sense in this context is Choice B--the demonstration of proficiency with the equipment has to come BEFORE the student is allowed to make the presentation.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Vocabulary	10	Precision	10.VC.P.1	2

*This is an excerpt from a manual that describes the presentation portion of a student project.*

(1) Once the fact-finding component of the student project is complete and informational slides have been prepared, students will \_\_\_\_\_ the presentation requirements. (2) Each student will use a wireless projector to enhance the overall presentation. (3) Since a lack of proficiency could impede the flow of the presentation, all students must demonstrate, as a prerequisite to this component, that they have learned how to operate the projector. (4) To avoid a possible system malfunction, students must \_\_\_\_\_ follow the directions for operating the projector.

*Which of the following words most precisely fills the blank in sentence 4?*

- (A) studiously
- (B) particularly
- (C) cautiously
- (D) meticulously

#### **RATIONALE**

The correct answer is Choice D. Sentence 4 says, “To avoid a possible system malfunction, students must \_\_\_\_\_ follow the directions for operating the projector.” The word that most precisely suggests careful attention to directions is Choice D, which means “very thoroughly.” None of the other choices conveys this level of attention to detail.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Verbal Reasoning	10	Analogical Reasoning	10.VR.AR.2	2

*["cynicism" is to "disillusionment"] as ["esteem" is to "admiration"]*

*The terms in each set of brackets above are related mainly because*

- A the first diminishes the second
- B the first is a form of the second
- C the first is essential to the second
- D the first is the opposite of the second

**RATIONALE**

Choice B is correct because cynicism is one kind of disillusionment just as esteem is one kind of admiration. Choices A, C, and D are incorrect because they do not accurately describe the relationship between the two terms in each set of brackets.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Verbal Reasoning	10	Categorical Reasoning	10.VR.CR.1	2

Which of the following words does *NOT* belong with the others?

- A Authentic
- B Trustworthy
- C Amiable
- D Sincere

**RATIONALE**

Choice C is the correct answer. It means "friendly and sociable," whereas the other three words, choices A, B, and D, share a meaning of "worthy of belief; reliable; true."

<b>SUBTEST</b>	<b>LEVEL</b>	<b>CONTENT STRAND</b>	<b>STANDARD</b>	<b>DOK</b>
Verbal Reasoning	10	Logical Reasoning	10.VR.LR.2	3

*Many of the nation's landfills, places where vast amounts of garbage are deposited, are running out of space. Some engineers have developed a process that involves pumping air, water, and bacteria into landfills, which will cause biodegradable garbage to decompose more quickly. The decomposed material could then be pumped out, leaving space inside the landfill. Clearly, landfill operators can increase their capacity significantly by using this process.*

*Which statement provides evidence that supports the argument?*

- A About one-third of all landfill content is biodegradable.
- B Decomposed garbage can contaminate nearby soil and water.
- C Recycling programs can help to slow landfill growth.
- D Increased landfill capacity will make new landfills unnecessary.

#### **RATIONALE**

Choice A is correct because it indicates that a significant amount of the material in landfills could be removed using this new process. Choice B is incorrect because, even if true, it is possible that the new process would not allow such contamination to occur. Choices C and D are incorrect because they do not provide evidence in support of the argument made about a new way to increase the capacity of existing landfills.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Verbal Reasoning	10	Logical Reasoning	10.VR.LR.1	2

*If every grade at the Jefferson School has its own art teacher, and if there is no ninth-grade art teacher at the Jefferson School, then*

- A art is one of the most heavily emphasized subjects at the Jefferson School
- B students at the Jefferson School take one year off from art instruction
- C no students who attend the Jefferson School are in the ninth grade
- D every Jefferson School student must pass art each year to be promoted

**RATIONALE**

Choice C is correct because, if there were any ninth-graders at Jefferson, then the two conditions that are provided could not both be true. Choice A is incorrect because we are not told how heavily emphasized any of the subjects taught at Jefferson are. Choices B and D are incorrect because they do not follow logically from the two conditions that are provided.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Concepts and Skills	10	Organization	10.WC.O.4	3

### Attracting Mockingbirds

(1) Imagine a few friends entertaining in a backyard and having a great time laughing and joking, when all of a sudden they hear what sounds like an echo. (2) Their laughter is suddenly repeated by birds in a nearby tree.

(3) The skill of these vocal imitators is suggested by their name: mockingbird. (4) Although not quite as attractive as blue jays or cardinals, mockingbirds are long and streamlined; and their bodies can extend up to nine inches in length. (5) Mockingbirds are grey in color with white undersides and flashy white wing patches and outer tail feathers.

(6) Their songs are a mixture of original and imitative phrases which are repeated several times. (7) They can imitate squeaky gates, pianos, sirens, and barking dogs. (8) While mockingbirds can perform at least 39 different songs, their repertoire may also include up to 50 other calls.

(9) Attracting mockingbirds to a backyard is not difficult. (10) The basic requirements for creating a mockingbird-friendly habitat are open, grassy areas where they can feed; thick, thorny shrubs where they can hide their nests; and high perches where the males can sing and defend their territory. (11) Other enticers might include chopped, dried fruit or raisins, set out on a platform feeder. (12) Fresh apples or pomegranates can also be added to fruit feeders to lure these songbirds. (13) Berry bushes, such as holly, mulberry, raspberry, blackberry or elderberry will certainly appeal to their love of wild fruits. (14) \_\_\_\_\_, a water source, such as a nearby stream or a birdbath, is essential.

*The author includes the first three paragraphs mostly to*

- (A) recount the author's personal experience with mockingbirds
- (B) describe the unique singing ability of mockingbirds
- (C) add humor to increase readers' interest in the mockingbirds
- (D) provide information to explain why readers might enjoy mockingbirds

#### **RATIONALE**

This question asks students to explain why the author includes the first three paragraphs. Although choices A–C do offer possible explanations, they do not match the information in the text which is all about mockingbirds, their habits and unique talents, and why they are so interesting. Only choice D matches the first three paragraphs and adequately explains the reason why the author includes them. Thus, D is the correct answer.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Concepts and Skills	10	Organization	10.WC.O.2	2

### Attracting Mockingbirds

(1) Imagine a few friends entertaining in a backyard and having a great time laughing and joking, when all of a sudden they hear what sounds like an echo. (2) Their laughter is suddenly repeated by birds in a nearby tree.

(3) The skill of these vocal imitators is suggested by their name: mockingbird. (4) Although not quite as attractive as blue jays or cardinals, mockingbirds are long and streamlined; and their bodies can extend up to nine inches in length. (5) Mockingbirds are grey in color with white undersides and flashy white wing patches and outer tail feathers.

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Which of the following transition words or phrases best completes the blank in sentence 14?

- A Interestingly
- B On the other hand
- C Finally
- D Thus

### RATIONALE

This question asks students to select the transition word or phrase that best completes the blank in sentence 14. This sentence comes at the end of the third paragraph, which is about the specific ways a person can attract mockingbirds to a yard or garden. There are numerous specific strategies described, and the last sentence of the paragraph mentions the need for a water source. The only word among the choices that fits into the paragraph in this position is choice C.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Concepts and Skills	10	Organization	10.WC.O.1	3

### Attracting Mockingbirds

(1) Imagine a few friends entertaining in a backyard and having a great time laughing and joking, when all of a sudden they hear what sounds like an echo. (2) Their laughter is suddenly repeated by birds in a nearby tree.

(3) The skill of these vocal imitators is suggested by their name: mockingbird. (4) Although not quite as attractive as blue jays or cardinals, mockingbirds are long and streamlined; and their bodies can extend up to nine inches in length. (5) Mockingbirds are grey in color with white undersides and flashy white wing patches and outer tail feathers.

(6) Their songs are a mixture of original and imitative phrases which are repeated several times. (7) They can imitate squeaky gates, pianos, sirens, and barking dogs. (8) While mockingbirds can perform at least 39 different songs, their repertoire may also include up to 50 other calls.

(9) Attracting mockingbirds to a backyard is not difficult. (10) The basic requirements for creating a mockingbird-friendly habitat are open, grassy areas where they can feed; thick, thorny shrubs where they can hide their nests; and high perches where the males can sing and defend their territory. (11) Other enticers might include chopped, dried fruit or raisins, set out on a platform feeder. (12) Fresh apples or pomegranates can also be added to fruit feeders to lure these songbirds. (13) Berry bushes, such as holly, mulberry, raspberry, blackberry or elderberry will certainly appeal to their love of wild fruits. (14) \_\_\_\_\_, a water source, such as a nearby stream or a birdbath, is essential.

Which of the following sentences would be the best concluding sentence for the passage?

- A Since cats are a natural predator of mockingbirds, you should not attract mockingbirds if you own a cat.
- B Providing fresh or dried fruits for mockingbirds can become expensive, so make sure you budget accordingly.
- C Mockingbirds are also a great way to rid your backyard of mosquitoes and other pesky insects.
- D If you take care to set up the right conditions, you too may one day hear mockingbirds laughing in your backyard.

### RATIONALE

This item asks students to select the best concluding sentence for the passage. The passage has discussed the reasons mockingbirds are so interesting and make such congenial garden visitors (paragraphs 1–3), and then the ways in which any person might attract mockingbirds by certain specific additions to a garden or yards (paragraph 4). Therefore, the concluding sentence for this passage must connect with the kinds of information and the general implied purpose of the four paragraphs. Only choice D specifically alludes to attracting mockingbirds to a backyard and to their sounds. All of the other options refer to aspects of interacting with mockingbirds not mentioned at all in the passage.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Concepts and Skills	10	Purpose, Audience, Focus	10.WC.PAF.2	3

(1) One of the most frightening Winter Olympic sports for both competitors and spectators, "skeleton," is as invigorating as it is treacherous. (2) In principle, it is no more than a simple sledding race: The winner is the one who reaches the finish line fastest over four runs. (3) It is the method the athletes use to get there, however, that elevates both the exhilaration and the peril.

(4) Skeleton is for athletes who enjoy extreme velocity and frigid temperatures and are not bothered knowing that one wrong move could have dangerous effects. (5) The athletes lie on their stomachs on steel sleds and hurtle headfirst down a track of ice. (6) Traveling at over 70 miles an hour with no brakes and no steering mechanism, they careen for nearly a mile using nothing but their body weight and aerodynamics to navigate through a dozen curves and loops. (7) Believe it or not, some of these curves are equivalent to a two-story-high wall! (8) The athletes accomplish all of these feats with their arms pressed to their sides, knowing that their only protection is the gear they are wearing: a helmet, a pair of gloves, and elbow pads.

(9) Skeleton had its Winter Olympics debut in 2002, after a 54-year absence. (10) In light of the risks involved in the sport, perhaps it is not surprising that skeleton was neglected for so long.

*The main purpose of this passage is to*

- A convince people to try skeleton racing
- B provide information about skeleton athletes
- C describe the Olympic event of skeleton racing
- D explain the long absence of skeleton racing from the Olympics

#### **RATIONALE**

The correct answer is choice C. The main purpose must accurately account for all of the information presented in the passage. There is no attempt to persuade the reader to try skeleton racing (choice A). While the characteristics of the skeleton athletes are briefly mentioned in sentence 4, there is no further information about this topic in the passage. Only the final two sentences of the passage refer to the long absence of skeleton racing from the Olympics (choice D).

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Concepts and Skills	10	Style and Craft	10.WC.SC.2	3

(1) One of the most frightening Winter Olympic sports for both competitors and spectators, "skeleton," is as invigorating as it is treacherous. (2) In principle, it is no more than a simple sledding race: The winner is the one who reaches the finish line fastest over four runs. (3) It is the method the athletes use to get there, however, that elevates both the exhilaration and the peril.

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(9) Skeleton had its Winter Olympics debut in 2002, after a 54-year absence. (10) In light of the risks involved in the sport, perhaps it is not surprising that skeleton was neglected for so long.

*Which of the following words best describes the tone of the passage?*

- A Anxious
- B Impartial
- C Cynical
- D Impressed

#### **RATIONALE**

The tone of the passage is the overall impression of the writer's attitude conveyed through the words and descriptions the writer chooses. In this passage, the writer repeatedly emphasizes the dangers and risks of skeleton racing, and the daring and adventurousness of the racers. The word that best describes the writer's overall attitude to the subject is choice D.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Concepts and Skills	10	Supporting Details	10.WC.SD.4	2

(1) One of the most frightening Winter Olympic sports for both competitors and spectators, "skeleton," is as invigorating as it is treacherous. (2) In principle, it is no more than a simple sledding race: The winner is the one who reaches the finish line fastest over four runs. (3) It is the method the athletes use to get there, however, that elevates both the exhilaration and the peril.

(4) Skeleton is for athletes who enjoy extreme velocity and frigid temperatures and are not bothered knowing that one wrong move could have dangerous effects. (5) The athletes lie on their stomachs on steel sleds and hurtle headfirst down a track of ice. (6) Traveling at over 70 miles an hour with no brakes and no steering mechanism, they careen for nearly a mile using nothing but their body weight and aerodynamics to navigate through a dozen curves and loops. (7) Believe it or not, some of these curves are equivalent to a two-story-high wall! (8) The athletes accomplish all of these feats with their arms pressed to their sides, knowing that their only protection is the gear they are wearing: a helmet, a pair of gloves, and elbow pads.

(9) Skeleton had its Winter Olympics debut in 2002, after a 54-year absence. (10) In light of the risks involved in the sport, perhaps it is not surprising that skeleton was neglected for so long.

*Which of the following sentences best supports the idea that skeleton racing is dangerous?*

- A Sentence 1
- B Sentence 3
- C Sentence 6
- D Sentence 10

#### **RATIONALE**

This item asks students to evaluate four sentences to determine which one best supports the idea that skeleton racing is dangerous. Sentence 1 simply states that this sport is "treacherous." Sentence 3 uses the word "peril" to help describe the method this race entails, and sentence 10 simply states that there are many risks involved in this sport. Only sentence 6 gives specific details to support the characterization of skeleton racing as dangerous, and that makes choice C the correct answer.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Concepts and Skills	10	Supporting Details	10.WC.SD.3	2

### Attracting Mockingbirds

(1) Imagine a few friends entertaining in a backyard and having a great time laughing and joking, when all of a sudden they hear what sounds like an echo. (2) Their laughter is suddenly repeated by birds in a nearby tree.

(3) The skill of these vocal imitators is suggested by their name: mockingbird. (4) Although not quite as attractive as blue jays or cardinals, mockingbirds are long and streamlined; and their bodies can extend up to nine inches in length. (5) Mockingbirds are grey in color with white undersides and flashy white wing patches and outer tail feathers.

(6) Their songs are a mixture of original and imitative phrases which are repeated several times. (7) They can imitate squeaky gates, pianos, sirens, and barking dogs. (8) While mockingbirds can perform at least 39 different songs, their repertoire may also include up to 50 other calls.

(9) Attracting mockingbirds to a backyard is not difficult. (10) The basic requirements for creating a mockingbird-friendly habitat are open, grassy areas where they can feed; thick, thorny shrubs where they can hide their nests; and high perches where the males can sing and defend their territory. (11) Other enticers might include chopped, dried fruit or raisins, set out on a platform feeder. (12) Fresh apples or pomegranates can also be added to fruit feeders to lure these songbirds. (13) Berry bushes, such as holly, mulberry, raspberry, blackberry or elderberry will certainly appeal to their love of wild fruits. (14) \_\_\_\_\_, a water source, such as a nearby stream or a birdbath, is essential.

Which of the following sentences conveys the *LEAST* specific information?

- A Sentence 4
- B Sentence 6
- C Sentence 7
- D Sentence 13

### RATIONALE

This question asks students to examine four sentences and decide which of them has the *LEAST* specific detail. This is a subtle distinction, because each of the sentences conveys some fact about mockingbirds or their environment. However, only sentence 6 simply names categories (original and imitative phrases) with no specific examples. The other three sentences have specific examples. This makes sentence 6 the *LEAST* specific of the four sentences.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Mechanics	10	Spelling, Capitalization, and Punctuation	10.WM.SCP.2	1

(1) The startling graphic art of M.C. Escher presents the viewer with eerie and impossible, yet exquisite, scenes. (2) The dutch artist used perspective to play with our perceptions. (3) His integration of repeating images, entwining features, and gradual metamorphoses distinguishing his work from other artists of his era.

(4) Born in 1898, Maurits Cornelis Escher lacked his fathers interest in engineering. (5) Although he began architecture school, he soon decided to study graphic art at the suggestion of one of his professors. (6) His father knew that his son was more interested in graphic art than architecture, and supported his son's decision.

(7) At age twenty-one, Escher left the field of architecture completely to study graphic art.

(8) While an eager student, Escher's early work was slow to develop. (9) Sometimes he would rework his drawings numerous times before he was satisfied. (10) However, during this time, he also traveled and experimented with his art, eventually blending into his works the styles unique to the cultures he visited.

(11) In Spain, he became intensely interested in Moorish tiling and spent years mimicking these styles. (12) In Italy, Escher met his wife, Jetta Umiker, and began sketching landscapes, using his particular talent for putting common images into impossible perspectives. (13) Escher and Jetta had two sons in Italy, where they lived for eleven years before moving to Switzerland. (14) There, Escher found himself without inspiration, until he took a Mediterranean cruise.

(15) During this journey, Escher and Jetta making sketches, creating source material for years of work to follow. (16) At the same time, Escher's fascination with order and symmetry came to the forefront. (17) Escher began focusing on geometric concepts in his art, becoming nearly obsessed. (18) Escher's use of advanced and complicated math in his art would continue to develop thruout the rest of his life.

Which of the following sentences contains a capitalization error?

- Sentence 2
- Sentence 5
- Sentence 11
- Sentence 12

### RATIONALE

#### Content Category, Capitalization

Choice A is correct. In sentence 2, the proper noun "Dutch" should be capitalized. In Choice B, sentence 5, there are no errors in capitalization. The first word of the sentence is capitalized as it should be. In Choice C, sentence 11, there are no errors in capitalization. The proper noun "Spain" should be capitalized, as should the proper adjective "Moorish," derived from the proper noun "Moor." In Choice D, sentence 12, there are no errors in capitalization. The proper noun "Italy" should be capitalized, as should the names "Escher" and "Jetta Umiker."

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Mechanics	10	Usage	10.WM.U.5	2

(1) The startling graphic art of M.C. Escher presents the viewer with eerie and impossible, yet exquisite, scenes. (2) The dutch artist used perspective to play with our perceptions. (3) His integration of repeating images, entwining features, and gradual metamorphoses distinguishing his work from other artists of his era.

(4) Born in 1898, Maurits Cornelis Escher lacked his fathers interest in engineering. (5) Although he began architecture school, he soon decided to study graphic art at the suggestion of one of his professors. (6) His father knew that his son was more interested in graphic art than architecture, and supported his son's decision.

(7) At age twenty-one, Escher left the field of architecture completely to study graphic art.

(8) While an eager student, Escher's early work was slow to develop. (9) Sometimes he would rework his drawings numerous times before he was satisfied. (10) However, during this time, he also traveled and experimented with his art, eventually blending into his works the styles unique to the cultures he visited.

(11) In Spain, he became intensely interested in Moorish tiling and spent years mimicking these styles. (12) In Italy, Escher met his wife, Jetta Umiker, and began sketching landscapes, using his particular talent for putting common images into impossible perspectives. (13) Escher and Jetta had two sons in Italy, where they lived for eleven years before moving to Switzerland. (14) There, Escher found himself without inspiration, until he took a Mediterranean cruise.

(15) During this journey, Escher and Jetta making sketches, creating source material for years of work to follow. (16) At the same time, Escher's fascination with order and symmetry came to the forefront. (17) Escher began focusing on geometric concepts in his art, becoming nearly obsessed. (18) Escher's use of advanced and complicated math in his art would continue to develop thruout the rest of his life.

Which of the following sentences is incomplete?

- A Sentence 7
- B Sentence 10
- C Sentence 11
- D Sentence 15

### RATIONALE

#### Content Category, Usage/Fragments

Choice D is correct. There is no main verb, only the participle "making," resulting in a sentence fragment. Each of the other choices is a complete sentence with a subject and a main verb that carries out the action of the sentence.

SUBTEST	LEVEL	CONTENT STRAND	STANDARD	DOK
Writing Mechanics	10	Usage	10.WM.U.3	2

(1) The startling graphic art of M.C. Escher presents the viewer with eerie and impossible, yet exquisite, scenes. (2) The dutch artist used perspective to play with our perceptions. (3) His integration of repeating images, entwining features, and gradual metamorphoses distinguishing his work from other artists of his era.

(4) Born in 1898, Maurits Cornelis Escher lacked his fathers interest in engineering. (5) Although he began architecture school, he soon decided to study graphic art at the suggestion of one of his professors. (6) His father knew that his son was more interested in graphic art than architecture, and supported his son's decision.

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Which of the following sentences contains a modification error?

- A Sentence 1
- B Sentence 5
- C Sentence 8
- D Sentence 17

### RATIONALE

#### Content Category, Usage/Modification

Choice C is the correct choice. The modifying phrase "While an eager student" illogically modifies the possessive "Escher's early work." "Escher" is needed instead. Each of the other sentences contains words and phrases that logically modify.