

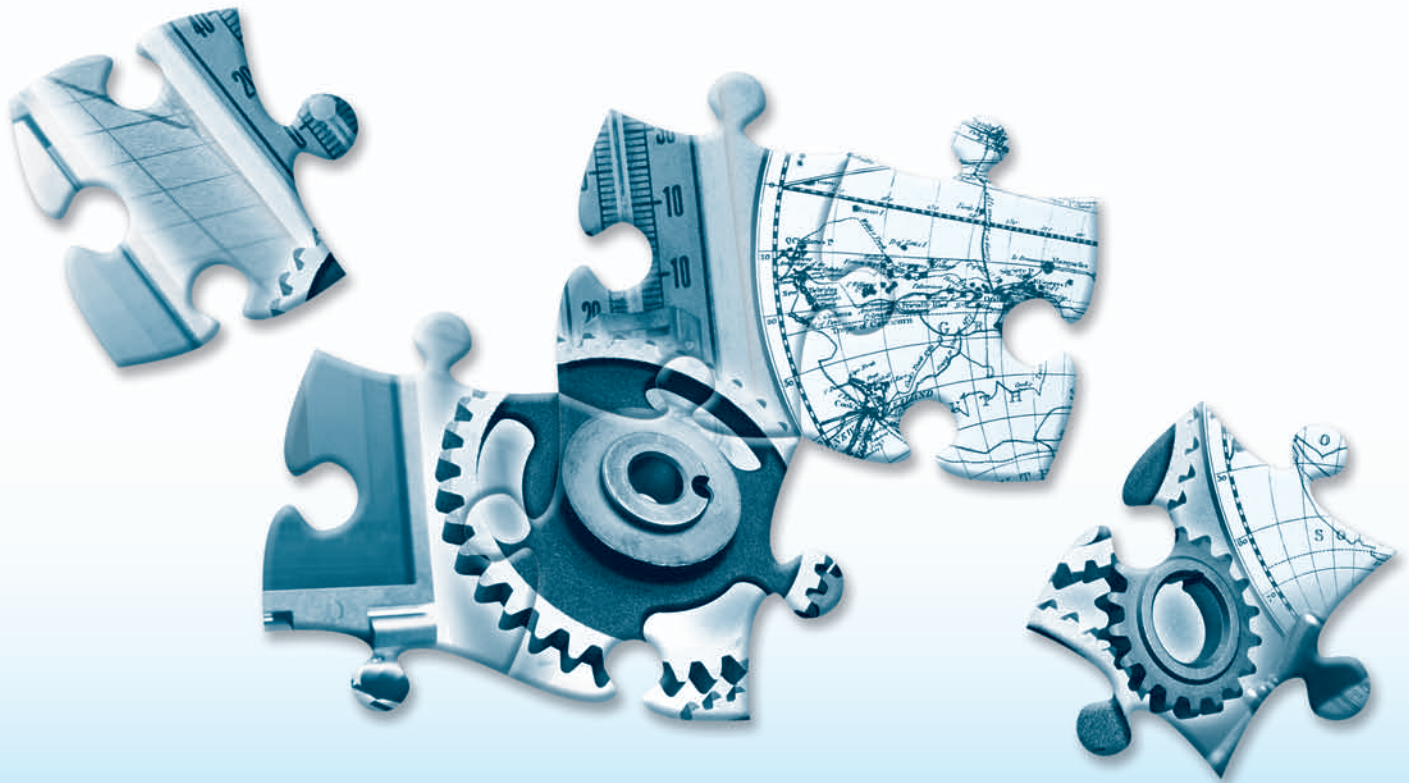
2007

**FCAT**

Florida Comprehensive Assessment Test®

REPORT ON THE  
2007 FCAT MATHEMATICS  
RELEASED ITEMS

# FLORIDA *Solves!*



GRADES  
**5, 8 & 10**

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***Florida Solves!  
Report on the  
2007 FCAT Mathematics  
Released Items***

***Grades 5, 8 & 10***

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***Florida Comprehensive Assessment Test®***

**FCAT**



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## Preface

*Florida Solves! Report on the 2007 FCAT Mathematics Released Items* is provided to help educators understand the scoring of the short-response performance tasks included on the 2007 “Performance Task Student Report” for FCAT Mathematics (Grades 5, 8, and 10). *Florida Reads! Report on the 2007 FCAT Reading Released Items* (Grades 4, 8, and 10) and *Florida Inquires! Report on the 2007 FCAT Science Released Items* (Grades 5, 8, and 11) provide information about the reading and science performance tasks featured on the 2007 student reports. *Florida Writes! Report on the 2007 FCAT Writing+ Assessment* (three separate publications for Grades 4, 8, and 10) provides information about the writing assessment administered in 2007. Additional information about FCAT reports can be found in *Understanding FCAT Reports 2007* on the FCAT home page of the Florida Department of Education (DOE) website at <http://www.fldoe.org>.

**The Performance Task Student Report** For FCAT 2007, administered during March 2007, performance task results are provided for students in Grades 5, 8, and 10 on the Mathematics 2007 “Performance Task Student Reports.” These reports summarize the total number of points possible on the performance tasks and the number of points each student earned. In addition, each report displays one of the tasks from the test and the number of points the student earned on that task. A copy (image) of the student’s actual response to this featured task is printed on the bottom half of the report.

**This Booklet** General information about the scoring of the FCAT Mathematics performance tasks is provided. Also included are guidelines for scoring the short-response performance tasks that are printed on the 2007 student reports. Each mathematics task in this booklet includes the following:

- the general rubric for each score point;
- the actual task as it appeared in 2007 on the FCAT;
- the scoring guide for that task, which includes an example of a top-score response;
- four sample (anchor) papers for score point two (2);
- four sample (anchor) papers for score point one (1);
- two sample (anchor) papers for score point zero (0); and
- annotations for each sample paper.

## Sunshine State Standards

Development of the Sunshine State Standards began in 1993, and the Standards were adopted by the State Board of Education in May 1996 to provide expectations for student achievement in Florida. The Standards were written in seven subject areas, each divided into four separate grade clusters (PreK–2, 3–5, 6–8, and 9–12). This format was chosen to provide flexibility to school districts in designing curricula based on local needs. As Florida moved toward greater accountability for student achievement at each grade level, the Sunshine State Standards were further refined. In the subject areas of language arts, mathematics, science, and social studies, the Sunshine State Standards were expanded to include Grade Level Expectations (GLEs) for PreK–8.

## Background Information About FCAT Mathematics

### Florida Comprehensive Assessment Test® (FCAT) Design

The FCAT was originally designed to measure the reading and mathematics content defined by the Sunshine State Standards. The state writing assessment, first administered in 1992, became part of the FCAT in 1998 and was expanded to include multiple-choice questions in 2006. A test of the science Sunshine State Standards was added to the FCAT in 2003. The test questions and prompts are written to measure benchmarks from the Sunshine State Standards that identify what students are expected to know and demonstrate in reading, mathematics, writing, and science.

The FCAT is different from other tests students take in three important ways. First, the FCAT is the only test administered in all Florida public schools that is directly linked to the Sunshine State Standards.

Second, the FCAT is designed to represent the kinds of tasks and activities that parents and teachers expect as part of good instruction. In the FCAT Mathematics, Reading, and Science tests, this is accomplished by presenting on the test the types of information and questions that students encounter in the classroom. In FCAT Writing+, students respond to topics similar to those used in the classroom.

Third, the FCAT demands a more in-depth understanding and application of information than is typical of many standardized tests. The FCAT Mathematics, Reading, and Science tests require students to analyze, synthesize, and evaluate information and to apply strategies or procedures they have learned. Similarly, FCAT Writing+ requires students to demonstrate and apply their writing skills by drafting an original piece of writing in response to a real-world prompt, and respond to multiple-choice questions that assess students' skills with sentence structure, spelling, usage, and grammar.

## Mathematics Standards, Benchmarks, and Strands

The Sunshine State Standards define the content standards for which test items are developed. The Sunshine State Standards identify the knowledge and skills that students are expected to acquire and include an expectation that students become creative and critical thinkers. The importance of thinking skills and problem solving is identified in *Florida's System of School Improvement and Accountability*, in Standard 4 of Goal 3: "Florida students use creative thinking skills to generate new ideas, make the best decisions, recognize and solve problems through reasoning, interpret symbolic data, and develop efficient techniques for lifelong learning." FCAT test items and performance tasks are developed with the intent of reinforcing the thinking and problem-solving abilities envisioned by this standard.

The term *benchmark* refers to a knowledge and skill statement presented in the Sunshine State Standards. The benchmarks are statements of expected student achievement and are specific to different grade levels. In some cases, for assessment purposes, two or more related benchmarks are grouped together because the assessment of one benchmark necessarily addresses the other benchmark. More information on the assessment of these benchmarks can be found in the *FCAT Mathematics Test Item Specifications*. (See Resources.)

The Sunshine State Standards contain benchmarks in the area of mathematics. For the purpose of reporting FCAT results, mathematics benchmarks are organized into five reporting categories called content strands.

- Strand 1 Number Sense, Concepts, and Operations
- Strand 2 Measurement
- Strand 3 Geometry and Spatial Sense
- Strand 4 Algebraic Thinking
- Strand 5 Data Analysis and Probability

The specific content strand, standard, and benchmark for each performance task contained in this booklet is followed by an image of the actual mathematics task as it appeared in 2007 on the FCAT.



## Test Item Formats

Mathematics test items at Grades 5, 8, and 10 are framed in the context of the Sunshine State Standards content areas: the arts, social studies, science, mathematics, foreign language, literature, and health/physical education. Students are asked to solve problems that incorporate actual situations and numerical values, such as the distance between planets in the solar system.

On FCAT Mathematics tests, students respond to three kinds of questions.

- Multiple-choice questions require students to choose the correct answer from four possible choices.
- Gridded-response questions require students to solve a problem and to bubble their numeric answers in answer grids. Students must solve these problems on their own without being able to guess, as they can with multiple-choice questions. In some cases, the correct answer can be represented in more than one way, such as when one student uses decimal fractions and another student uses common fractions to respond to a problem. Similarly, more than one answer can be correct, as can happen when there is a range of acceptable answers.
- Performance tasks require students to think about a problem, develop a strategy, and record their strategy and solution. There are two kinds of performance tasks: short-response tasks, which require approximately five minutes to answer, and extended-response tasks, which require about ten to fifteen minutes to answer.

To emphasize the thinking required, the performance tasks in mathematics are labeled “Think, Solve, Explain.” For these questions, students are required to respond to a problem, and the response is later scored by teams of trained scorers. About 20 percent of the total score points of a test are generated by these performance tasks; the remaining score points come from multiple-choice and gridded-response questions.

Examples of FCAT test items for all grade levels are contained in *Sample Test Books* for FCAT Reading, Writing+, Mathematics, and Science tests. Sample Test Materials and released FCAT Mathematics test items and answer keys are distributed to school districts prior to the FCAT administration each year and can be downloaded from the FCAT home page on the DOE website at <http://www.fldoe.org>. (See Resources.)

## How FCAT Mathematics Is Scored

The FCAT is scored both manually and electronically. All completed answer documents are scanned using a process called *imaging*, which involves capturing electronic images of the pages that include students' answers in their own handwriting. Students' multiple-choice and gridded responses are machine-scored using computer programs that read the students' bubbled answers and evaluate them based on an answer key. Students' answers to the performance tasks, however, must be scored by trained scorers using a process commonly called *handscoring*.

The handscoring of students' written responses is conducted by professional scorers. These scorers are required to have college degrees and are specially trained to score student papers. Scorers may only use the FCAT scoring rubrics and item-specific scoring criteria that have been established and validated by teams of Florida educators at FCAT Rangefinding meetings. (The general scoring rubrics can be found in Appendix A.)

After each mathematics performance task is administered in a field test to a sample of Florida students, a team of Florida mathematics teachers and administrators works with Florida Department of Education staff to score a sample of these papers. A top-score response for each task is defined, and papers representing the possible scores for that task are identified (4, 3, 2, 1, and 0 for extended-response tasks and 2, 1, and 0 for short-response tasks). In this way, clear definitions of each score point are developed, and model papers, called *anchor papers*, are selected to represent the range of responses for each possible score point.

These field-test papers, scored by the team of Florida educators, become the training materials for the professional scorers. This process and the quality control measures (reliability and validity checks) implemented during scoring ensure that all performance tasks are scored according to Florida's standards. Each student response is read independently by at least two professional scorers. For short-response performance tasks, if the scorers' two scores are not identical, a third scorer reviews the scoring to resolve the difference. For extended-response performance tasks, a third scorer is used if the first two scores are nonadjacent, that is, if they differ by more than one point. This third scoring, called *resolution scoring*, is performed by a scoring supervisor. All scoring is monitored by Florida Department of Education staff.

Scores from the handscoring process are combined with scores from the machine-scoring process to create a record for each student. The student's total scale score is created by a computer-based analysis procedure that combines the scores from the various types of test items. Scale scores are used to report student results because of their precision and because they can be equated from year to year. Equating scores ensures the same standard of achievement is used each year. In this way, scores can be compared from year to year, and the progress of students and schools can be evaluated fairly.

For more detailed information about scoring performance tasks, see *FCAT Performance Task Scoring—Practice for Educators* publications and software sent to Florida school districts in 2001. Also, more information can be found in the *FCAT Handbook—A Resource for Educators*, which can be downloaded from the DOE website.

## Holistic Scoring

**What is holistic scoring?** Student responses to the FCAT Mathematics performance tasks are scored holistically. The term *holistic* is used to emphasize the importance of the whole work, including the interdependence of its parts. A rubric is used to evaluate student responses to each task. Different rubrics are used for the two different types of tasks, short- and extended-response. Holistic scoring is a method of evaluation that is used in many state assessments and involves judging a student response for its *total* effect. No single factor is weighted to the exclusion of any other.

Analytic scoring, on the other hand, is a method of scoring in which separate judgments or ratings are made for each of several traits. In mathematics, for example, the scorer might evaluate such traits as procedures (computation), reasoning, and communication, giving a separate score for each. It is important to note that separate analytic judgments are **not** made when scoring the FCAT performance tasks. By scoring holistically, scorers take all traits into consideration and give a single, overall score. Potential bias issues are also discussed with scorers. (See Appendix C.)

**What is a rubric?** A rubric is a general guide for scoring. It identifies the performance features to be evaluated and describes how performance varies across the scoring scale. For the FCAT Mathematics extended-response tasks, a 4-point rubric is used (4, 3, 2, 1, 0). A 2-point rubric (2, 1, 0) is used for short-response tasks. (Appendix A includes the 2-point and 4-point rubrics used for scoring the FCAT Mathematics performance tasks.) The 2-point rubric precedes each short-response performance task within this booklet as well.

**What are anchor papers?** Anchor papers are actual, unedited student responses demonstrating typical performance for each point in the rubric. They are used to train professional scorers to recognize, for example, what a score point 4 response looks like or what a score point 2 response looks like. Anchor papers also help scorers make decisions about assigning score points during live scoring.

**What are annotations?** Annotations explain the reasoning associated with a particular score. They describe the strengths and weaknesses of a paper. Annotations are used to train scorers by giving them insights into the skills and processes that students use in responding to performance tasks.

## Scoring Tools for FCAT Mathematics

Two scoring tools are available for scorers of the FCAT Mathematics performance tasks.

- **General Rubrics** General scoring rubrics are available for both the short-response tasks and the extended-response tasks. (See Appendix A.) These rubrics describe the characteristics associated with each score point. Because they are general, these rubrics apply to all mathematics performance tasks.
- **Example of a Top-Score Response** The top-score response displays one example of a correct and complete response *for that particular task*. For those tasks that have more than one acceptable answer, the top-score response provides the range of acceptable answers.

When used in combination with the anchor responses and annotations, these scoring tools give scorers and teachers a clear and comprehensive understanding of how to interpret and evaluate students' responses to the FCAT Mathematics performance tasks.



# Grade 5

## Short-Response Performance Task

- No calculators are used for Grade 5 FCAT Mathematics.
- Any formulas that students need for answering Grade 5 FCAT Mathematics questions are provided with the questions.

### General Short-Response Scoring Rubric

THINK
SOLVE
EXPLAIN

Score	Description
2	A score of two indicates that the student has demonstrated a thorough understanding of the mathematics concepts and/or procedures embodied in the task. The student has completed the task correctly, in a mathematically sound manner. When required, student explanations and/or interpretations are clear and complete. The response may contain minor flaws that do not detract from the demonstration of a thorough understanding.
1	A score of one indicates that the student has provided a response that is only partially correct. For example, the student may provide a correct solution, but may demonstrate some misunderstanding of the underlying mathematical concepts or procedures. Conversely, a student may provide a computationally incorrect solution but could have applied appropriate and mathematically sound procedures, or the student’s explanation could indicate an understanding of the task, despite the error.
0	A score of zero indicates that the student has provided no response at all, or a completely incorrect or uninterpretable response, or demonstrated insufficient understanding of the mathematics concepts and/or procedures embodied in the task. For example, a student may provide some work that is mathematically correct, but the work does not demonstrate even a rudimentary understanding of the primary focus of the task.

## Mathematics Short-Response Performance Task from FCAT 2007

The strand, standard, and benchmark for the task are presented below along with the task as it appears in the FCAT 2007 test.

### Description of Task

Strand C: Geometry and Spatial Sense

Standard 3: The student uses coordinate geometry to locate objects in both two and three dimensions and to describe objects algebraically.

Benchmark: MA.C.3.2.1. The student represents and applies a variety of strategies and geometric properties and formulas for two- and three-dimensional shapes to solve real-world and mathematical problems. (Also assesses MA.C.3.2.2 Identifies and plots positive ordered pairs [whole numbers] in a rectangular coordinate system [graph].)

Performance Task: Fifth grade students were directed to respond in their test books. The performance task below was reduced to fit on this page. The actual size is shown on the following page.

Tim and his friends want to play roller hockey on the school playground after school. Tim will draw a rectangle to mark the boundaries of the roller hockey rink.

THINK  
SOLVE  
EXPLAIN

**Part A** Draw a rectangle to represent the outline of the rink on the coordinate grid below. The rectangle should have the following labeled vertices: A(2, 2) B(2, 10) C(13, 10) D(13, 2)

**ROLLER HOCKEY RINK**

**SCALE**  
 ─── = 1 yard

**Part B** What is the actual perimeter, in yards, of the roller hockey rink?  
Use the space below to show your work.

Perimeter = distance around a figure

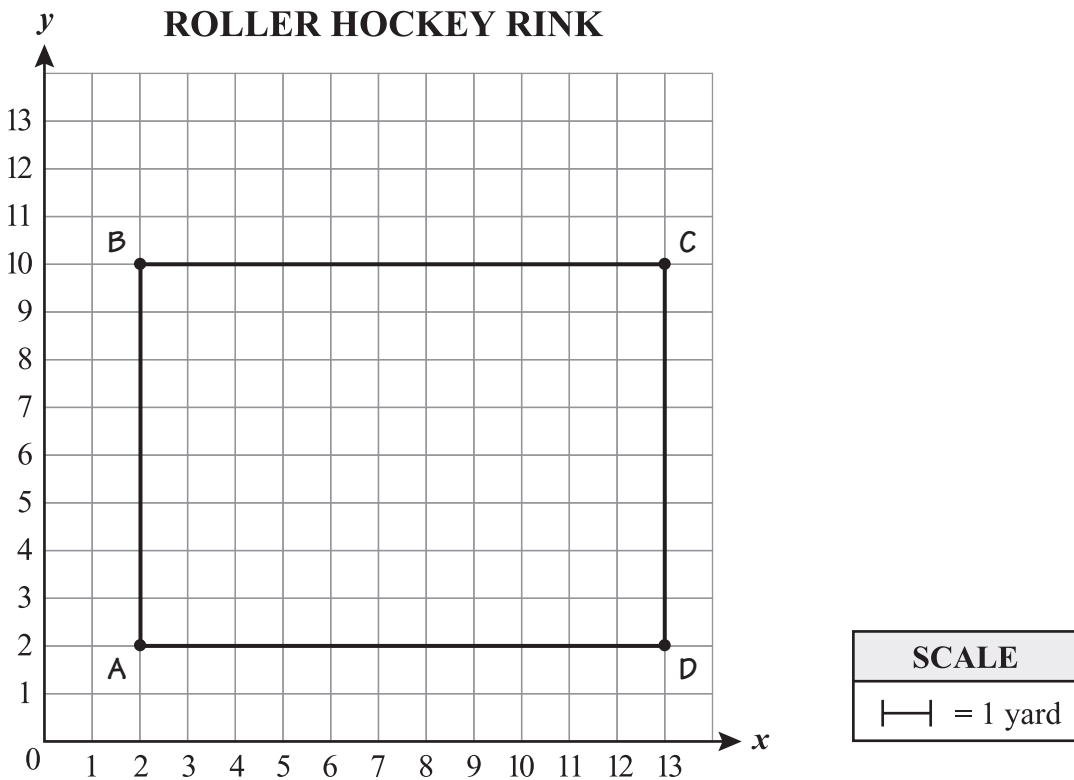
Perimeter \_\_\_\_\_

**Example of a Top-Score Response for This Task**

THINK  
SOLVE  
EXPLAIN

Tim and his friends want to play roller hockey on the school playground after school. Tim will draw a rectangle to mark the boundaries of the roller hockey rink.

**Part A** Draw a rectangle to represent the outline of the rink on the coordinate grid below. The rectangle should have the following labeled vertices: A(2, 2) B(2, 10) C(13, 10) D(13, 2)



**Part B** What is the actual perimeter, in yards, of the roller hockey rink?  
Use the space below to show your work.

Perimeter = distance around a figure

*An explanation or work similar to the following:*

$$\begin{aligned} \text{Perimeter} &= 8 + 8 + 11 + 11 \\ 8 \times 2 &= 16 \quad 11 \times 2 = 22 \\ 16 + 22 &= 38 \text{ yards} \end{aligned}$$

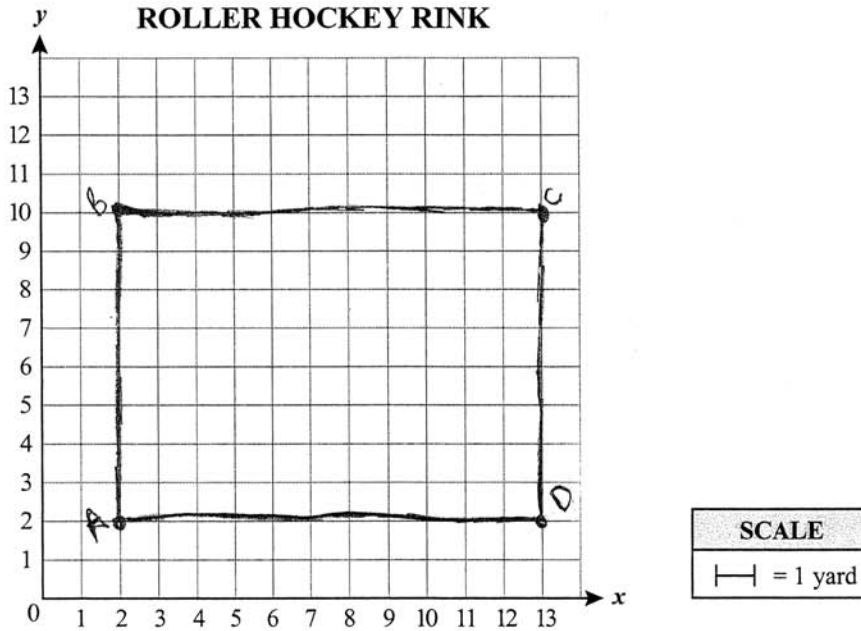
Perimeter           38 yards

STUDENT RESPONSE

THINK  
SOLVE  
EXPLAIN

Tim and his friends want to play roller hockey on the school playground after school. Tim will draw a rectangle to mark the boundaries of the roller hockey rink.

**Part A** Draw a rectangle to represent the outline of the rink on the coordinate grid below. The rectangle should have the following labeled vertices: A(2, 2) B(2, 10) C(13, 10) D(13, 2)



**Part B** What is the actual perimeter, in yards, of the roller hockey rink? Use the space below to show your work.

Perimeter = distance around a figure

$$\begin{array}{r}
 22 \\
 + 16 \\
 \hline
 38
 \end{array}
 \qquad
 \begin{array}{r}
 \times 2 \\
 \hline
 16 \text{ yd.}
 \end{array}
 \qquad
 \begin{array}{r}
 \times 22 \\
 \hline
 22 \text{ yd.}
 \end{array}$$

Perimeter 38 yards

SCORE POINT  
**2**

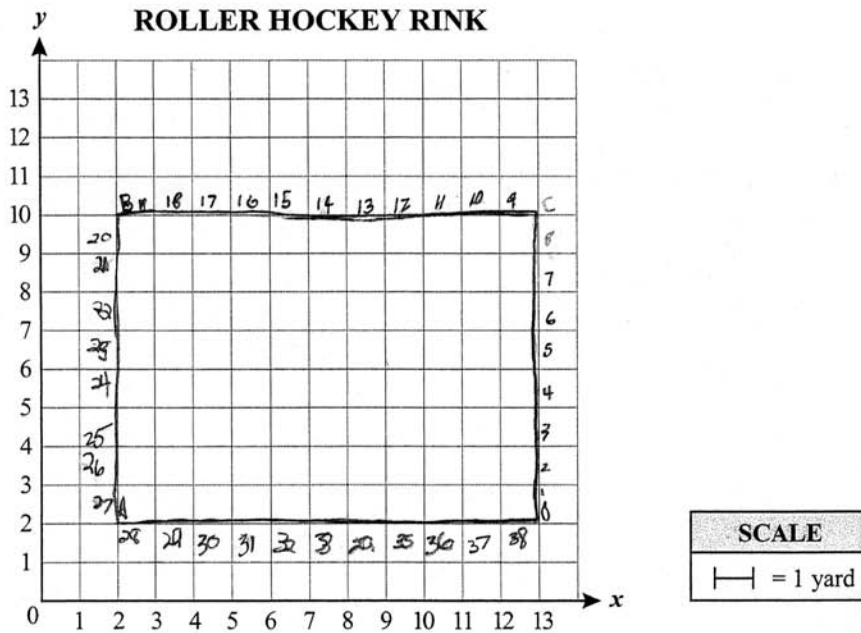
This response received a score of 2. The response shows an accurately drawn rectangle with all four vertices, (2, 2), (2, 10), (13, 10), and (13, 2), correctly plotted and labeled: A, B, C, and D. Supporting mathematical computations show the length of each congruent side multiplied by 2 and then added together to find the correct perimeter of 38 yards. The work provided demonstrates a thorough understanding of the task, earning the response full credit.



Tim and his friends want to play roller hockey on the school playground after school. Tim will draw a rectangle to mark the boundaries of the roller hockey rink.

THINK  
SOLVE  
EXPLAIN

**Part A** Draw a rectangle to represent the outline of the rink on the coordinate grid below. The rectangle should have the following labeled vertices: A(2, 2) B(2, 10) C(13, 10) D(13, 2)



**Part B** What is the actual perimeter, in yards, of the roller hockey rink? Use the space below to show your work.

Perimeter = distance around a figure

*I counted all the |—| which was 38 yards then I put it as the perimeter.*

Perimeter 38 yards

SCORE POINT  
**2**

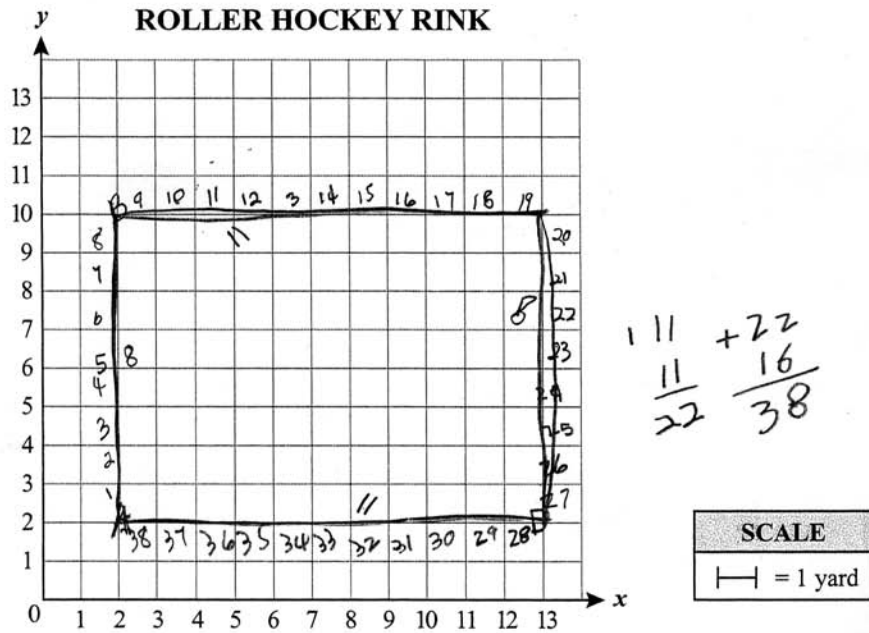
This response received a score of 2. An accurately drawn rectangle with all four labeled vertices is shown. Each unit of measure around the rectangle is numbered and the written explanation, “I counted all the |—| which was 38 yards then I put it as the perimeter,” demonstrates an understanding of perimeter. The response earned full credit.

STUDENT RESPONSE

THINK  
SOLVE  
EXPLAIN

Tim and his friends want to play roller hockey on the school playground after school. Tim will draw a rectangle to mark the boundaries of the roller hockey rink.

**Part A** Draw a rectangle to represent the outline of the rink on the coordinate grid below. The rectangle should have the following labeled vertices: A(2, 2) B(2, 10) C(13, 10) D(13, 2)



**Part B** What is the actual perimeter, in yards, of the roller hockey rink? Use the space below to show your work.

Perimeter = distance around a figure

Perimeter 38

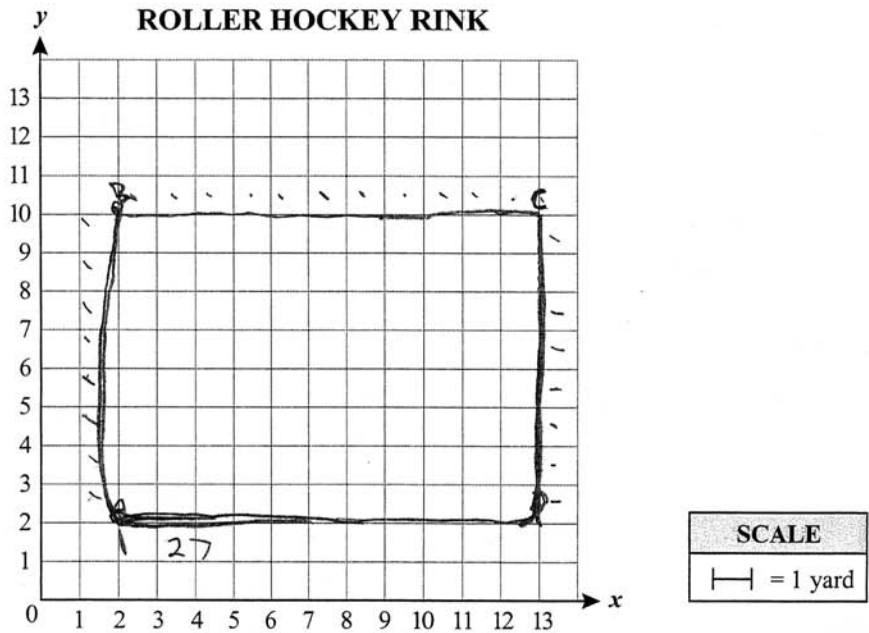
SCORE POINT  
**2**

This response received a score of 2. An accurately drawn rectangle is shown with three of the four vertices correctly labeled. Omitting vertex C is considered a minor flaw. The units of measure around the rectangle are counted and mathematical computations are provided next to the grid. The correct perimeter of 38 is given. This response demonstrates a thorough understanding of the task, earning full credit.

Tim and his friends want to play roller hockey on the school playground after school. Tim will draw a rectangle to mark the boundaries of the roller hockey rink.

THINK  
SOLVE  
EXPLAIN

**Part A** Draw a rectangle to represent the outline of the rink on the coordinate grid below. The rectangle should have the following labeled vertices: A(2, 2) B(2, 10) C(13, 10) D(13, 2)



**Part B** What is the actual perimeter, in yards, of the roller hockey rink? Use the space below to show your work.

Perimeter = distance around a figure

Perimeter 38 yards

I counted all the one yard lines around the rectangle and go 38

SCORE POINT  
**2**

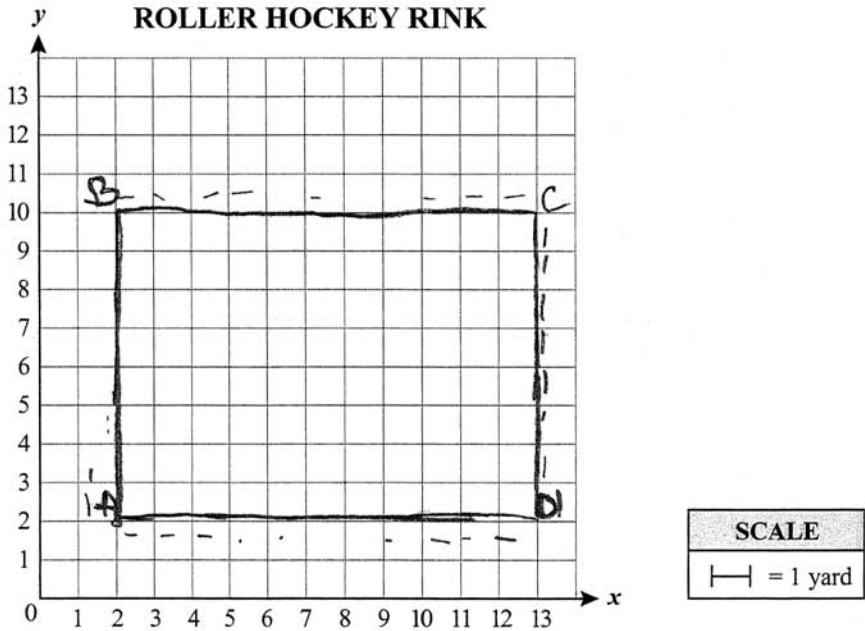
This response received a score of 2. Rectangle ABCD is drawn and labeled correctly. Although the line segments are not straight, this lack of precision does not detract from an otherwise correct response. The correct perimeter of 38 yards is shown, with the corresponding explanation of counting one-yard lines around the rectangle. The response earned full credit.

STUDENT RESPONSE

THINK  
SOLVE  
EXPLAIN

Tim and his friends want to play roller hockey on the school playground after school. Tim will draw a rectangle to mark the boundaries of the roller hockey rink.

**Part A** Draw a rectangle to represent the outline of the rink on the coordinate grid below. The rectangle should have the following labeled vertices: A(2, 2) B(2, 10) C(13, 10) D(13, 2)



**Part B** What is the actual perimeter, in yards, of the roller hockey rink?  
Use the space below to show your work.

Perimeter = distance around a figure

Perimeter 38 yard<sup>2</sup>

$$\begin{array}{r} 16 \\ + 22 \\ \hline 38 \end{array}$$

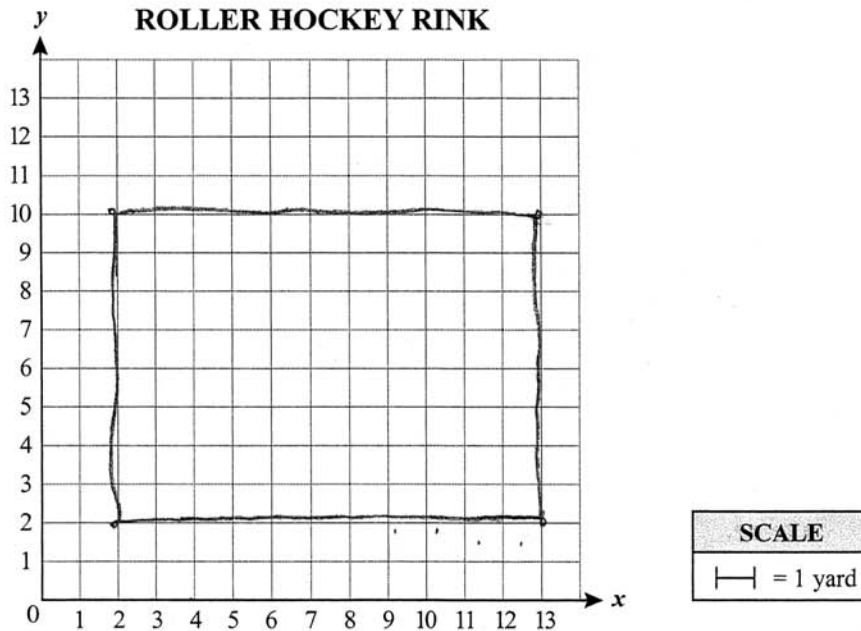
SCORE POINT  
**1**

This response received a score of 1. An accurately drawn rectangle, with correctly labeled vertices, is shown. The work shown,  $16 + 22$ , equaling 38 is adequate; however the label, “yard<sup>2</sup>,” is incorrect. Using a square unit of measure demonstrates some misunderstanding of perimeter.

Tim and his friends want to play roller hockey on the school playground after school. Tim will draw a rectangle to mark the boundaries of the roller hockey rink.

THINK  
SOLVE  
EXPLAIN

**Part A** Draw a rectangle to represent the outline of the rink on the coordinate grid below. The rectangle should have the following labeled vertices: A(2, 2) B(2, 10) C(13, 10) D(13, 2)



**Part B** What is the actual perimeter, in yards, of the roller hockey rink?  
Use the space below to show your work.

Perimeter = distance around a figure

$$\begin{array}{r} 11 \\ \times 2 \\ \hline 22 \end{array} \quad \begin{array}{r} 10 \\ \times 8 \\ \hline 80 \end{array} \quad \begin{array}{r} 22 \\ + 16 \\ \hline 38 \end{array}$$

Perimeter 38 yards

SCORE POINT  
**1**

This response received a score of 1. An accurately drawn rectangle is shown; however, none of the four vertices are labeled. Correct mathematical computations are provided, which include multiplying the lengths of the sides of the rectangle by 2 and adding the two products together to find the correct perimeter of 38 yards. This response demonstrates only a partial understanding of the task, as all parts of the task are not addressed.

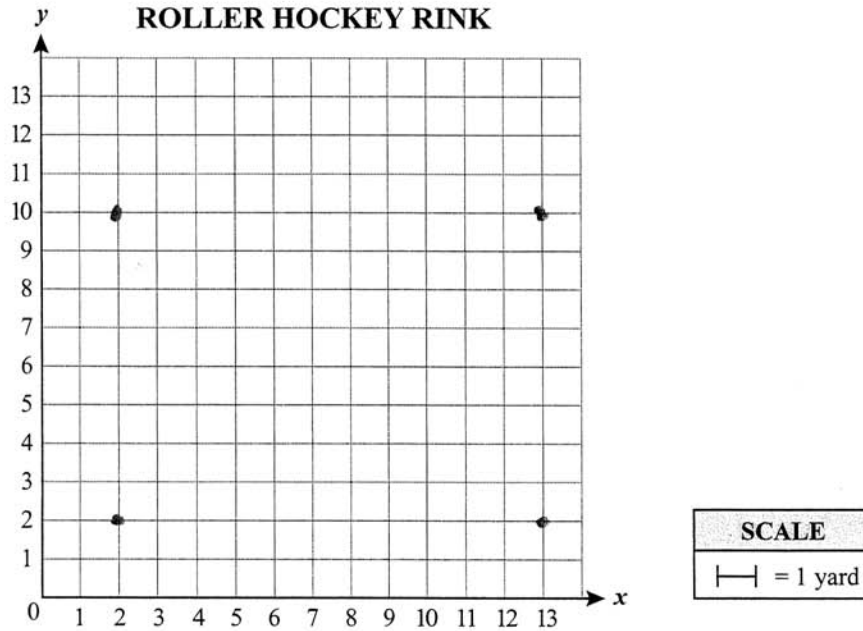


STUDENT RESPONSE

THINK  
SOLVE  
EXPLAIN

Tim and his friends want to play roller hockey on the school playground after school. Tim will draw a rectangle to mark the boundaries of the roller hockey rink.

**Part A** Draw a rectangle to represent the outline of the rink on the coordinate grid below. The rectangle should have the following labeled vertices: A(2, 2) B(2, 10) C(13, 10) D(13, 2)



**Part B** What is the actual perimeter, in yards, of the roller hockey rink?  
Use the space below to show your work.

Perimeter = distance around a figure

Perimeter 52

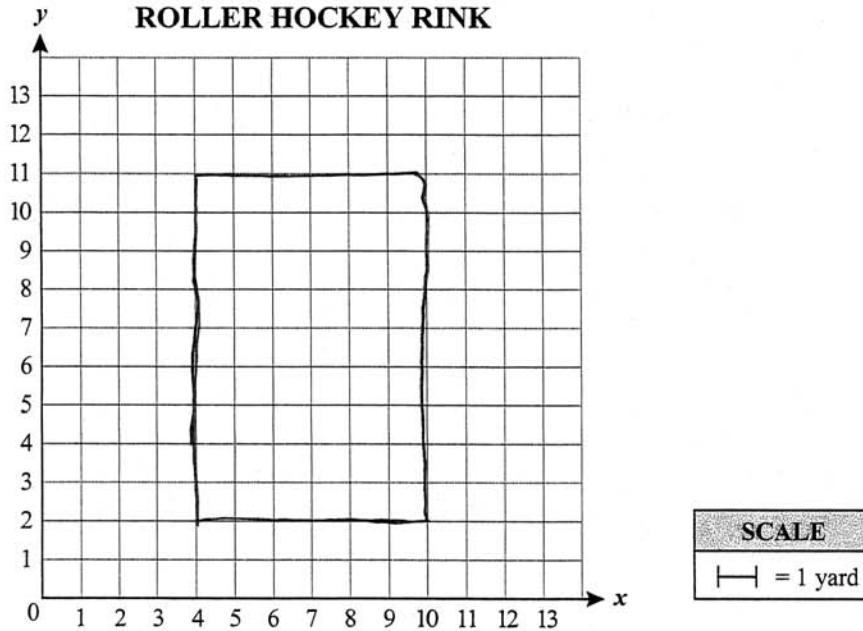
SCORE POINT  
**1**

This response received a score of 1. Four points are correctly plotted. None of the points are labeled and the points are not connected to form a rectangle. No work is shown and an incorrect solution is written (52). By not addressing all parts of the task, this response demonstrates only a partial understanding.

Tim and his friends want to play roller hockey on the school playground after school. Tim will draw a rectangle to mark the boundaries of the roller hockey rink.

THINK  
SOLVE  
EXPLAIN

**Part A** Draw a rectangle to represent the outline of the rink on the coordinate grid below. The rectangle should have the following labeled vertices: A(2, 2) B(2, 10) C(13, 10) D(13, 2)



**Part B** What is the actual perimeter, in yards, of the roller hockey rink? Use the space below to show your work.

Perimeter = distance around a figure

$$6 + 6 = 12 \quad 9 + 9 = 18$$

$$\begin{array}{r} 18 \\ + 12 \\ \hline 30 \end{array}$$

Perimeter 30

SCORE POINT  
**1**

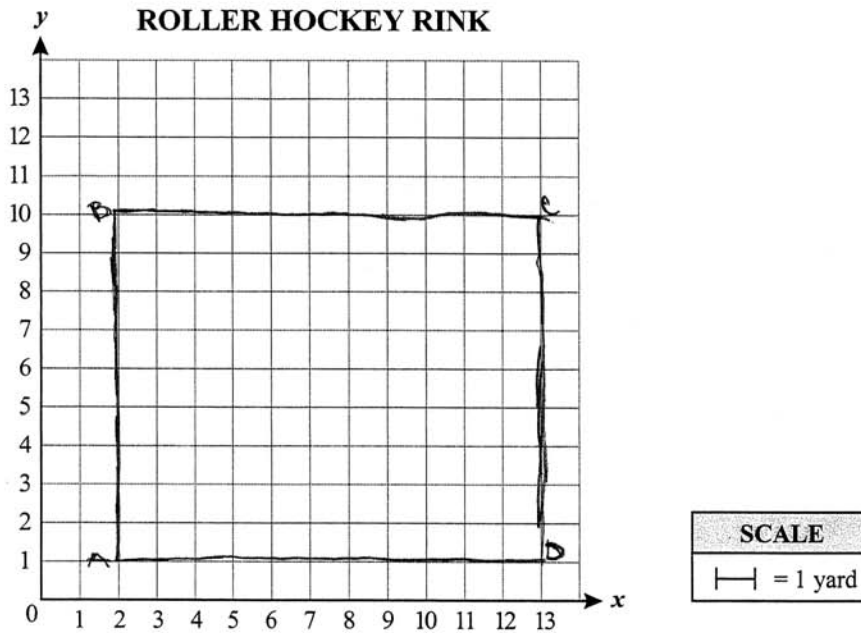
This response received a score of 1. None of the points are correctly plotted; however, a rectangle is drawn on the grid. The work that is shown ( $6 + 6 = 12$ ,  $9 + 9 = 18$ , and  $18 + 12 = 30$ ) correctly displays sound mathematical procedures in finding the perimeter of the rectangle that is drawn. Despite the inaccurate graph, appropriate procedures for finding perimeter were applied. This response demonstrates a partial understanding of the task.

STUDENT RESPONSE

THINK  
SOLVE  
EXPLAIN

Tim and his friends want to play roller hockey on the school playground after school. Tim will draw a rectangle to mark the boundaries of the roller hockey rink.

**Part A** Draw a rectangle to represent the outline of the rink on the coordinate grid below. The rectangle should have the following labeled vertices: A(2, 2) B(2, 10) C(13, 10) D(13, 2)



**Part B** What is the actual perimeter, in yards, of the roller hockey rink?  
Use the space below to show your work.

Perimeter = distance around a figure

Perimeter It is 99 yards

SCORE POINT  
**0**

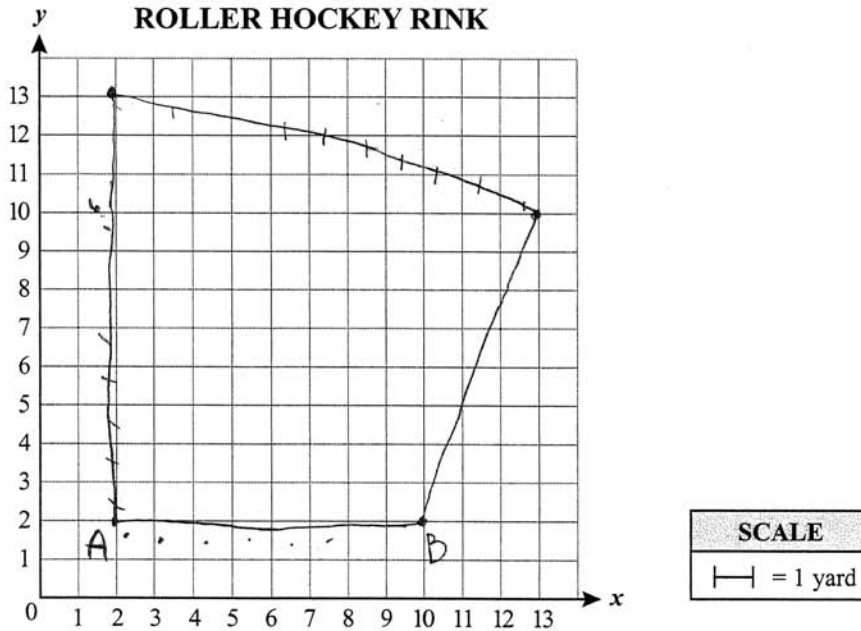
This response received a score of 0. Two of the four vertices, B (2, 10) and C (13, 10), are plotted and labeled correctly. A rectangle is drawn, connecting two incorrectly plotted points to vertices B and C. No supporting work is shown for finding the incorrect perimeter (99 yards). This response demonstrates an insufficient understanding of the task and no credit was earned.



Tim and his friends want to play roller hockey on the school playground after school. Tim will draw a rectangle to mark the boundaries of the roller hockey rink.

THINK  
SOLVE  
EXPLAIN

**Part A** Draw a rectangle to represent the outline of the rink on the coordinate grid below. The rectangle should have the following labeled vertices: A(2, 2) B(2, 10) C(13, 10) D(13, 2)



**Part B** What is the actual perimeter, in yards, of the roller hockey rink? Use the space below to show your work.

Perimeter = distance around a figure

Perimeter 38 yards

SCORE POINT  
**0**

This response received a score of 0. Two of the four vertices are plotted correctly. Although 38 yards is written in the answer space, the perimeter of the quadrilateral that is drawn is not 38 yards, and there is no other support for the given perimeter. This response does not demonstrate even a rudimentary understanding of the primary focus of the task. No credit was earned.





# Grade 8

## Short-Response Performance Task

- Calculators are provided for Grade 8 students to use for FCAT Mathematics.
- FCAT Mathematics Reference Sheets with formulas and conversions are provided for Grade 8 students. (See Appendix B.)

### General Short-Response Scoring Rubric

THINK
SOLVE
EXPLAIN

Score	Description
2	A score of two indicates that the student has demonstrated a thorough understanding of the mathematics concepts and/or procedures embodied in the task. The student has completed the task correctly, in a mathematically sound manner. When required, student explanations and/or interpretations are clear and complete. The response may contain minor flaws that do not detract from the demonstration of a thorough understanding.
1	A score of one indicates that the student has provided a response that is only partially correct. For example, the student may provide a correct solution, but may demonstrate some misunderstanding of the underlying mathematical concepts or procedures. Conversely, a student may provide a computationally incorrect solution but could have applied appropriate and mathematically sound procedures, or the student’s explanation could indicate an understanding of the task, despite the error.
0	A score of zero indicates that the student has provided no response at all, or a completely incorrect or uninterpretable response, or demonstrated insufficient understanding of the mathematics concepts and/or procedures embodied in the task. For example, a student may provide some work that is mathematically correct, but the work does not demonstrate even a rudimentary understanding of the primary focus of the task.

## Mathematics Short-Response Performance Task from FCAT 2007

The strand, standard, and benchmark for the task are presented below along with the task as it appears in the FCAT 2007 test.

### Description of Task

Strand B: Measurement

Standard 1: The student measures quantities in the real world and uses the measures to solve problems.

Benchmark: MA.B.1.3.1 The student uses concrete and graphic models to derive formulas for finding perimeter, area, surface area, circumference, and volume of two- and three-dimensional shapes, including rectangular solids and cylinders.

Performance Task: The performance task below was reduced to fit on this page. The actual size is shown on the following page.

THINK  
SOLVE  
EXPLAIN

Paolo and Fred need to paint the 4 outside faces of a storage building. Before they can purchase the paint, they must calculate the surface area of the faces to be painted. A diagram of the building with 2 outside faces showing is given below.

**STORAGE BUILDING**

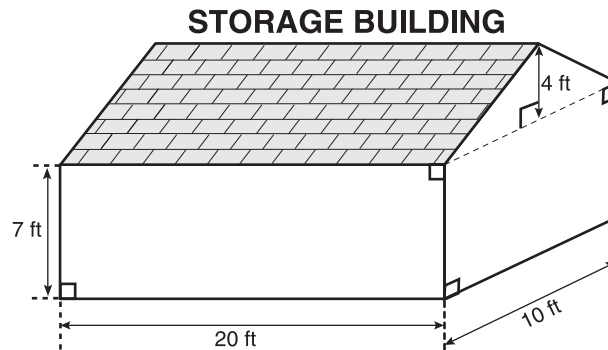
Assuming that opposite sides of the building are congruent to each other, what is the total outside surface area, in square feet, of the 4 faces to be painted? Show all work necessary to justify your answer.

*Total Surface Area of Outside Faces* \_\_\_\_\_

**Example of a Top-Score Response for This Task**

THINK  
SOLVE  
EXPLAIN

Paolo and Fred need to paint the 4 outside faces of a storage building. Before they can purchase the paint, they must calculate the surface area of the faces to be painted. A diagram of the building with 2 outside faces showing is given below.



Assuming that opposite sides of the building are congruent to each other, what is the total outside surface area, in square feet, of the 4 faces to be painted? Show all work necessary to justify your answer.

*An explanation or work similar to the following:*

**Surface area of the front and back faces:**

$$2 (20 \times 7) = 280$$

**Surface area of the two end faces:**

$$2 (10 \times 7) = 140$$

**Surface area of the two triangular sections:**

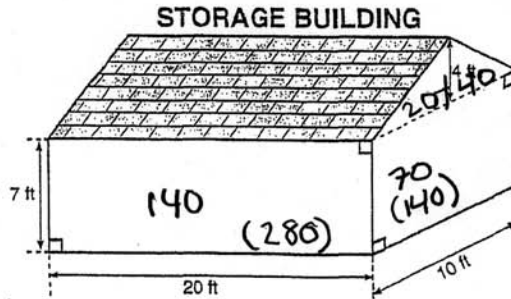
$$2 \left(\frac{1}{2}\right) (10 \times 4) = 40$$

$$280 + 140 + 40 = 460$$

**Total Surface Area of Outside Faces** 460 square feet

THINK  
SOLVE  
EXPLAIN

Paolo and Fred need to paint the 4 outside faces of a storage building. Before they can purchase the paint, they must calculate the surface area of the faces to be painted. A diagram of the building with 2 outside faces showing is given below.



Assuming that opposite sides of the building are congruent to each other, what is the total outside surface area, in square feet, of the 4 faces to be painted? Show all work necessary to justify your answer.

$$20 \times 7 = 140 \times 2 = 280$$

$$10 \times 7 = 70 \times 2 = 140$$

$$\begin{array}{r} 420 \\ 40 \\ \hline 460 \end{array} \rightarrow$$

$$A = \frac{1}{2}bh$$

$$A = \frac{1}{2}(20)(7)$$

$$A = 70$$

$$A = 70 \times 2 = 140$$

Find area of the four faces and add them and get the total SA..

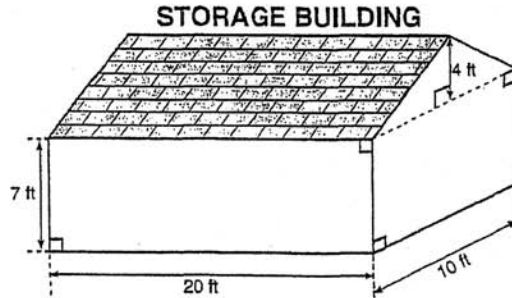
Total Surface Area of Outside Faces 460ft<sup>2</sup>

SCORE POINT  
2

This response received a score of 2. The area of one side of the building and the area of one end of the building were correctly calculated and doubled. The area of the triangular section was also correctly calculated and doubled. By correctly calculating the area of each section and finding the correct total surface area to be painted, this response demonstrates a thorough understanding of the task and earned full credit.

Paolo and Fred need to paint the 4 outside faces of a storage building. Before they can purchase the paint, they must calculate the surface area of the faces to be painted. A diagram of the building with 2 outside faces showing is given below.

THINK  
SOLVE  
EXPLAIN



Assuming that opposite sides of the building are congruent to each other, what is the total outside surface area, in square feet, of the 4 faces to be painted? Show all work necessary to justify your answer.

$$\triangle 20 + \triangle 20 + \square 140 + \square 140 + \square 70 + \square 70 = 460$$

Total Surface Area of Outside Faces 460 ft<sup>2</sup>

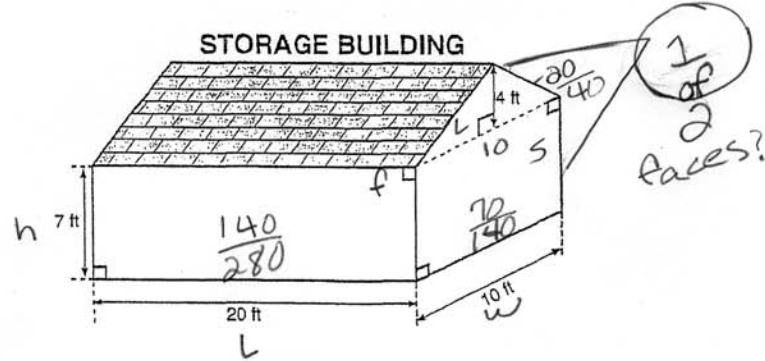
STUDENT RESPONSE

SCORE POINT  
**2**

This response received a score of 2. The areas of the triangles, sides, and ends are shown by drawing the shapes of each section and placing the values in the drawings. Although the procedures used to find the areas are not displayed, the correct total surface area of all the sections demonstrates a thorough understanding of the task and the response earned full credit.

THINK  
SOLVE  
EXPLAIN

Paolo and Fred need to paint the 4 outside faces of a storage building. Before they can purchase the paint, they must calculate the surface area of the faces to be painted. A diagram of the building with 2 outside faces showing is given below.



Assuming that opposite sides of the building are congruent to each other, what is the total outside surface area, in square feet, of the 4 faces to be painted? Show all work necessary to justify your answer.

$$\begin{array}{r}
 280 \text{ (2 front faces)} \\
 140 \text{ (2 side faces)} \\
 + 40 \text{ (2 left faces)}? \\
 \hline
 460 \quad \text{or } 420
 \end{array}$$

Total Surface Area of Outside Faces 460 ft<sup>2</sup>

SCORE POINT  
2

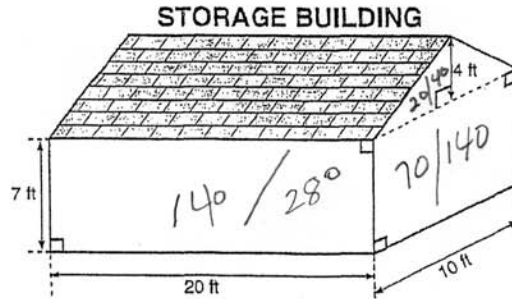
This response received a score of 2. The areas of the triangles, sides, and ends are calculated and doubled on the graphic in the item. The areas are added to find the correct total surface area of 460. An incorrect total surface area of 420 is also written in the work space but is considered a minor flaw since the correct area of 460 ft<sup>2</sup> is written in the answer space. The response earned full credit.

STUDENT RESPONSE



Paolo and Fred need to paint the 4 outside faces of a storage building. Before they can purchase the paint, they must calculate the surface area of the faces to be painted. A diagram of the building with 2 outside faces showing is given below.

THINK  
SOLVE  
EXPLAIN



Assuming that opposite sides of the building are congruent to each other, what is the total outside surface area, in square feet, of the 4 faces to be painted? Show all work necessary to justify your answer.

Total Surface Area of Outside Faces 460

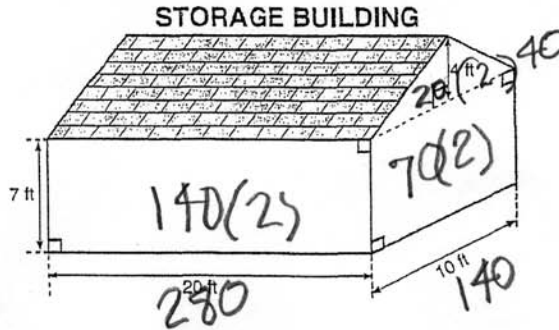
STUDENT RESPONSE

SCORE POINT  
**2**

This response received a score of 2. The areas of the triangles, sides, and ends are calculated and doubled on the graphic in the item. The correct total surface area in the answer space demonstrates a thorough understanding of the task and the response earned full credit.

THINK  
SOLVE  
EXPLAIN

Paolo and Fred need to paint the 4 outside faces of a storage building. Before they can purchase the paint, they must calculate the surface area of the faces to be painted. A diagram of the building with 2 outside faces showing is given below.



Assuming that opposite sides of the building are congruent to each other, what is the total outside surface area, in square feet, of the 4 faces to be painted? Show all work necessary to justify your answer.

SA= surface area

$$SA = (7 \times 20 \times 2) + (10 \times 7 \times 2) + (\frac{1}{2} \times 10 \times 4 \times 2)$$

$$SA = 280 + 140 + 40$$

$$SA = 460 \text{ ft}$$

460 ft.

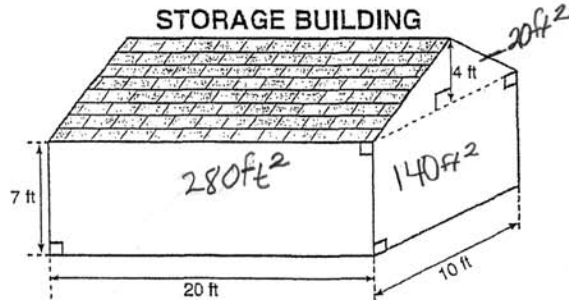
Total Surface Area of Outside Faces \_\_\_\_\_

SCORE POINT  
1

This response received a score of 1. The areas of the sides, ends, and triangles were calculated and doubled for a correct total of 460; however, the incorrect unit of “ft.” instead of “ft<sup>2</sup>.” is included in the answer. The incorrect label of “ft.” conveys a less than thorough understanding of the concept of surface area and prevents this response from earning full credit.

THINK  
SOLVE  
EXPLAIN

Paolo and Fred need to paint the 4 outside faces of a storage building. Before they can purchase the paint, they must calculate the surface area of the faces to be painted. A diagram of the building with 2 outside faces showing is given below.



Assuming that opposite sides of the building are congruent to each other, what is the total outside surface area, in square feet, of the 4 faces to be painted? Show all work necessary to justify your answer.

$$2(7 \cdot 20) = 280$$

$$2(7 \cdot 10) + 2\left(\frac{1}{2} \cdot 4 \cdot 10\right)$$

$$140 \qquad 20$$

$$+ \frac{280}{140} + 20$$

$$\hline 440$$

Total Surface Area of Outside Faces 440 ft<sup>2</sup>

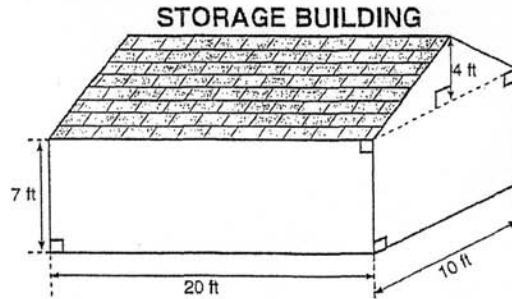
SCORE POINT  
**1**

This response received a score of 1. The areas of the sides and ends of the building are correctly calculated and doubled. The work shown to find the area of one triangle is correctly calculated; however, this value is not doubled. Because the response does not include all sections of the building to be painted, full credit was not earned.

STUDENT RESPONSE

THINK  
SOLVE  
EXPLAIN

Paolo and Fred need to paint the 4 outside faces of a storage building. Before they can purchase the paint, they must calculate the surface area of the faces to be painted. A diagram of the building with 2 outside faces showing is given below.



Assuming that opposite sides of the building are congruent to each other, what is the total outside surface area, in square feet, of the 4 faces to be painted? Show all work necessary to justify your answer.

	$lw$	$lw$	$\frac{1}{2}bh$
area	140	70	$\frac{10 \times 7}{2}$
of	<u><math>\times 2</math></u>	<u><math>\times 2</math></u>	<u><math>10 \times 7</math></u>
sides	280	+ 140	+ 35
	<hr style="border: 0.5px solid black;"/>		
	455 ft <sup>2</sup>		

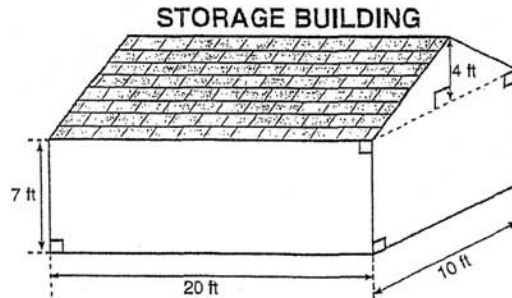
Total Surface Area of Outside Faces 455 ft<sup>2</sup>

SCORE POINT  
**1**

This response received a score of 1. The areas of the sides and ends of the building are correctly calculated and doubled; however, when finding the area of the triangular section, a height of 7 instead of 4 was used and the area was not doubled. The error in the computation of the triangular section demonstrates only a partial understanding of the task and only partial credit was earned.

Paolo and Fred need to paint the 4 outside faces of a storage building. Before they can purchase the paint, they must calculate the surface area of the faces to be painted. A diagram of the building with 2 outside faces showing is given below.

THINK  
SOLVE  
EXPLAIN



Assuming that opposite sides of the building are congruent to each other, what is the total outside surface area, in square feet, of the 4 faces to be painted? Show all work necessary to justify your answer.

140  
140  
70  
70  
20  
20

420  
~~63~~  
460

Total Surface Area of Outside Faces 420 ft<sup>2</sup>

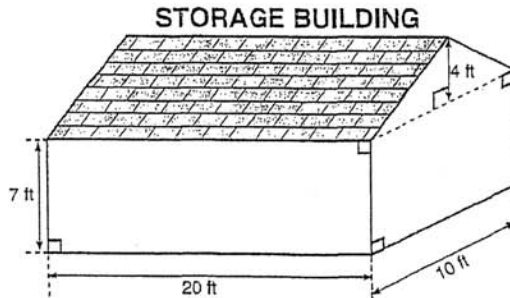
SCORE POINT  
**1**

This response received a score of 1. The correct areas for all sections are computed and added together; however, two possible responses were included in the computation, one with the triangular sections included and the other with the triangular sections omitted. The incorrect answer of 420 ft<sup>2</sup> was chosen for the answer space which demonstrated only partial understanding of the task and full credit was not received.

STUDENT RESPONSE

THINK  
SOLVE  
EXPLAIN

Paolo and Fred need to paint the 4 outside faces of a storage building. Before they can purchase the paint, they must calculate the surface area of the faces to be painted. A diagram of the building with 2 outside faces showing is given below.



Assuming that opposite sides of the building are congruent to each other, what is the total outside surface area, in square feet, of the 4 faces to be painted? Show all work necessary to justify your answer.

$$SA = LW + WH + HL$$

$$SA = 200 + 40 + 220$$

$$A = 460$$

Total Surface Area of Outside Faces 460 ft

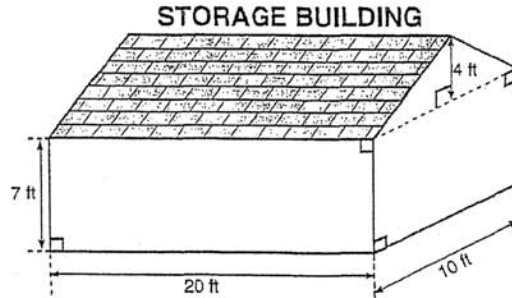
SCORE POINT  
**0**

This response received a score of 0. Although the correct value of 460 appears in the work and answer space, the procedures to find the area and the unit of measure were incorrect. The area of the bottom of the rectangular prism (the floor of the building) was computed, the ends of the rectangular prism were considered to be  $11 \times 10$  and the area for the triangular sections was found by multiplying numbers in the prompt. An insufficient understanding of the task is demonstrated and no credit was earned.



THINK  
SOLVE  
EXPLAIN

Paolo and Fred need to paint the 4 outside faces of a storage building. Before they can purchase the paint, they must calculate the surface area of the faces to be painted. A diagram of the building with 2 outside faces showing is given below.



Assuming that opposite sides of the building are congruent to each other, what is the total outside surface area, in square feet, of the 4 faces to be painted? Show all work necessary to justify your answer.

$$\begin{aligned}
 S.A. &= 2(lw) + 2(hw) + 2(lh) \\
 &= 2(10 \cdot 20) + 2(7 \cdot 20) + 2(10 \cdot 7) \\
 &= 2(200) + 2(140) + 2(70) \\
 &= 400 + 280 + 140 \\
 &= 820
 \end{aligned}$$

$$\begin{array}{r}
 400 \\
 + 280 \\
 + 140 \\
 \hline
 820
 \end{array}$$

Total Surface Area of Outside Faces 820 ft.<sup>2</sup>

STUDENT RESPONSE

SCORE POINT  
**0**

This response received a score of 0. The top and bottom of the rectangular prism were included in the calculation for the total surface area of the outside of the building. The triangular sections to be painted were not included in the total surface area. Without the triangular sections included in the calculations, an insufficient understanding of the task was demonstrated and no credit was earned.







# Grade 10

## Short-Response Performance Task

- Calculators are provided for Grade 10 students to use for FCAT Mathematics.
- FCAT Mathematics Reference Sheets with formulas and conversions are provided for Grade 10 students. (See Appendix B.)

### General Short-Response Scoring Rubric

THINK  
SOLVE  
EXPLAIN

Score	Description
2	A score of two indicates that the student has demonstrated a thorough understanding of the mathematics concepts and/or procedures embodied in the task. The student has completed the task correctly, in a mathematically sound manner. When required, student explanations and/or interpretations are clear and complete. The response may contain minor flaws that do not detract from the demonstration of a thorough understanding.
1	A score of one indicates that the student has provided a response that is only partially correct. For example, the student may provide a correct solution, but may demonstrate some misunderstanding of the underlying mathematical concepts or procedures. Conversely, a student may provide a computationally incorrect solution but could have applied appropriate and mathematically sound procedures, or the student's explanation could indicate an understanding of the task, despite the error.
0	A score of zero indicates that the student has provided no response at all, or a completely incorrect or uninterpretable response, or demonstrated insufficient understanding of the mathematics concepts and/or procedures embodied in the task. For example, a student may provide some work that is mathematically correct, but the work does not demonstrate even a rudimentary understanding of the primary focus of the task.



**Example of a Top-Score Response for This Task**

THINK  
SOLVE  
EXPLAIN

Mr. Adler invested a total of \$12,000 in two bank accounts, Account *L* and Account *M*. The simple interest rate on Account *L* was 6% per year.

**Part A** Mr. Adler invested \$4000 in Account *L*. How much interest did he earn from that account after 1 year? Show work or write an explanation to support your answer.

*Work or an explanation similar to the following:*

$$I = (p)(r)(t)$$

$$I = (4000)(0.06)(1)$$

$$I = \$240.00$$

*Amount of Interest Earned After 1 Year* \_\_\_\_\_ \$240.00 \_\_\_\_\_

**Part B** The remainder of Mr. Adler’s \$12,000 was invested in Account *M*. After 1 year, the combined total of principal and interest in both of his accounts was \$12,920. What was the simple interest rate of Account *M*? Show work or write an explanation to support your answer.

*Work or an explanation similar to the following:*

The work below leads to the amount of interest earned for Account *M*.

$$12,920 - 12,000 = 920$$

$$920 - 240 = 680$$

The work below leads to finding the interest rate of Account *M*.

$$12,000 - 4,000 = 8,000$$

$$I = (p)(r)(t)$$

$$680 = (8000)(r)(1)$$

$$680 = 8000r$$

$$0.085 = r$$

$$8.5\% = r$$

*Interest Rate of Account M* \_\_\_\_\_ 0.085 or 8.5% \_\_\_\_\_

Mr. Adler invested a total of \$12,000 in two bank accounts, Account L and Account M. The simple interest rate on Account L was 6% per year.

THINK  
SOLVE  
EXPLAIN

**Part A** Mr. Adler invested \$4000 in Account L. How much interest did he earn from that account after 1 year? Show work or write an explanation to support your answer.

$$I = prt$$

$$I = 4000(6\%)(1)$$

$$I = 240(1)$$

$$= 240$$

Amount of Interest Earned After 1 Year \$ 240

**Part B** The remainder of Mr. Adler's \$12,000 was invested in Account M. After 1 year, the combined total of principal and interest in both of his accounts was \$12,920. What was the simple interest rate of Account M? Show work or write an explanation to support your answer.

$$12,000 - 4000 = 8000$$

$$12,920 - 12,000 = \$920 \text{ interest}$$

$$920 - 240$$

$$= 680 \text{ interest in M}$$

$$I = 8000(r)(1)$$

$$680 = 8000(r)(1)$$

$$680 = 8000r$$

$$r = 8.5\%$$

Interest Rate of Account M 8.5%

SCORE POINT  
2

This response received a score of 2. In *Part A*, the interest formula,  $I = prt$ , is used to find the amount of interest earned in one year for Account L,  $I = 4000(6\%)(1)$ . The equation is solved and results in the correct amount of interest, \$240. In *Part B*, the principal amount in Account L, 4000, is subtracted from the total of both accounts, 12000, to arrive at 8000, the principal amount in Account M. The total amount in both accounts, 12000, is subtracted from the combined total of principal and interest in both accounts, yielding \$920 as the interest earned in both accounts. The interest that was earned in Account L, 240, is subtracted from the amount of interest in both accounts, 920, to find the interest earned in Account M, \$680. These two values, 8000 and 680, are then substituted into the interest formula,  $680 = 8000(r)(1)$ , to find the correct interest rate of Account M. Solving this equation would yield 0.085, but the response shows the solution as  $r = 8.5\%$ , which is equivalent. The response demonstrates a thorough understanding of the task, earning full credit.

Mr. Adler invested a total of \$12,000 in two bank accounts, Account L and Account M. The simple interest rate on Account L was 6% per year.

THINK  
SOLVE  
EXPLAIN

**Part A** Mr. Adler invested \$4000 in Account L. How much interest did he earn from that account after 1 year? Show work or write an explanation to support your answer.

If 4,000 dollars was invested into account L and the interest rate is 6% percent per year then you multiply the interest by the money put into the bank to get the interest earned. ex

$$\begin{array}{r} 4000 \\ \times 0.06 \\ \hline 240 \end{array} \quad 240$$

Amount of Interest Earned After 1 Year \$ 240.00

**Part B** The remainder of Mr. Adler's \$12,000 was invested in Account M. After 1 year, the combined total of principal and interest in both of his accounts was \$12,920. What was the simple interest rate of Account M? Show work or write an explanation to support your answer.

1.  $\frac{12,000}{4,000} = 8,000$
2. account M investment = 8,000
3.  $12,920 - 12,000 = 920 - 240 = 680$   
interest earned in account M = 680
4.  $\frac{680}{8,000}$

Interest Rate of Account M 9 %

SCORE POINT  
**2**

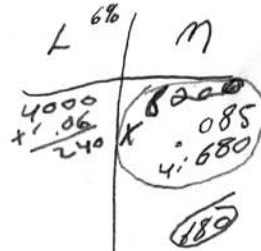
STUDENT RESPONSE

This response received a score of 2. In *Part A*, a written explanation of the process to find the interest earned in Account L is given. The mathematical process is shown as well,  $4000 \times 0.06$ , which yields \$240.00. In *Part B*, the steps used to solve for the interest rate of Account M are numbered to help the reader follow the process. In step 1, the principal of Account L, 4,000, is subtracted from the total amount invested, 12,000. Step 2 shows that the result from step 1 is the Account M investment, 8,000. In step 3, the combined total investment is subtracted from the combined total principal and interest. A run-on equation is used to solve for the amount of interest earned in Account M:  $12,920 - 12,000 = 920 - 240 = 680$ . This run-on equation is considered a minor flaw because it occurs in the work space. In step 4, the necessary division between the interest and principal in Account M is shown,  $\frac{680}{8,000}$ . Although the result of the division, 0.085, is not shown, the 9% on the answer line is an appropriate representation of the rounded result converted to percent. The explanation provided demonstrates a thorough understanding of the task, earning the response full credit.

THINK  
SOLVE  
EXPLAIN

Mr. Adler invested a total of \$12,000 in two bank accounts, Account L and Account M. The simple interest rate on Account L was 6% per year.

**Part A** Mr. Adler invested \$4000 in Account L. How much interest did he earn from that account after 1 year? Show work or write an explanation to support your answer.



Amount of Interest Earned After 1 Year \$ 240.

**Part B** The remainder of Mr. Adler's \$12,000 was invested in Account M. After 1 year, the combined total of principal and interest in both of his accounts was \$12,920. What was the simple interest rate of Account M? Show work or write an explanation to support your answer.



Interest Rate of Account M .085

STUDENT RESPONSE

SCORE POINT  
**2**

This response received a score of 2. In *Part A*, a T-chart is made for both accounts, L and M. The left side of the T-chart has the calculations for Account L,  $4,000 \times .06$ , which yields \$240 in interest from Account L. In *Part B*, the 920 of combined interest is shown as a result of the 240 from Part A plus 680. In the T-chart, the 8000 invested in Account M is multiplied by .085 to yield 680. Showing steps to the solution of *Part B* in the *Part A* work space is acceptable, because it is clearly labeled. The question in *Part B* does not ask for the answer in a specific form—decimal or percent—because interest rates can be written in either form. The response earned full credit.

THINK  
SOLVE  
EXPLAIN

Mr. Adler invested a total of \$12,000 in two bank accounts, Account L and Account M. The simple interest rate on Account L was 6% per year.

**Part A** Mr. Adler invested \$4000 in Account L. How much interest did he earn from that account after 1 year? Show work or write an explanation to support your answer.

Amount of Interest Earned After 1 Year \$240.<sup>00</sup>

**Part B** The remainder of Mr. Adler’s \$12,000 was invested in Account M. After 1 year, the combined total of principal and interest in both of his accounts was \$12,920. What was the simple interest rate of Account M? Show work or write an explanation to support your answer.

680      8000  
8%

Interest Rate of Account M 8.5%

STUDENT RESPONSE

SCORE POINT  
2

This response received a score of 2. In *Part A*, no work is provided, but a correct answer of \$240 is written on the answer line. In *Part B*, the amount invested in Account M is written, 8000, as is the amount of interest earned in that account, 680. Showing these key values required to arrive at the given answer of 8.5% is considered sufficient to demonstrate understanding. The values in *Part B* also show enough evidence of understanding of interest rates and the interest formula that work was not considered necessary in *Part A*. The response earned full credit.



THINK  
SOLVE  
EXPLAIN

Mr. Adler invested a total of \$12,000 in two bank accounts, Account L and Account M. The simple interest rate on Account L was 6% per year.

**Part A** Mr. Adler invested \$4000 in Account L. How much interest did he earn from that account after 1 year? Show work or write an explanation to support your answer.

*Amount of Interest Earned After 1 Year* 240

**Part B** The remainder of Mr. Adler’s \$12,000 was invested in Account M. After 1 year, the combined total of principal and interest in both of his accounts was \$12,920. What was the simple interest rate of Account M? Show work or write an explanation to support your answer.

*Interest Rate of Account M* 8.5%

STUDENT RESPONSE

SCORE POINT  
**1**

This response received a score of 1. The response contains no work to demonstrate the process of finding the amount of interest earned in *Part A* or the interest rate in *Part B*. The answers provided in the answer blanks are correct. By not providing any work to support the answers, this response does not demonstrate an understanding of interest calculations.



THINK  
SOLVE  
EXPLAIN

Mr. Adler invested a total of \$12,000 in two bank accounts, Account L and Account M. The simple interest rate on Account L was 6% per year.

**Part A** Mr. Adler invested \$4000 in Account L. How much interest did he earn from that account after 1 year? Show work or write an explanation to support your answer.

$$L = 4,000(.06) = 240$$

Amount of Interest Earned After 1 Year \$ 240.00

**Part B** The remainder of Mr. Adler’s \$12,000 was invested in Account M. After 1 year, the combined total of principal and interest in both of his accounts was \$12,920. What was the simple interest rate of Account M? Show work or write an explanation to support your answer.

$$M = 8000$$

$$x \frac{(\cancel{8000})}{\cancel{8000}} = \frac{680}{8000}$$

$$x = .085\%$$

$$\begin{array}{r} 920 \\ - 240 \\ \hline 680 \end{array}$$

Interest Rate of Account M .085%

STUDENT RESPONSE

SCORE POINT  
**1**

This response received a score of 1. The interest earned for Account L in *Part A* is found using given values in the interest formula,  $L = 4000(.06) = 240$ . In *Part B*, the principal amount of money in Account M, 8000, is written in the workspace. The interest earned for Account L, 240, is subtracted from 920, the total interest for both accounts, to find the interest earned for Account M, 680. The principal and the interest are used in the interest formula,  $x8000 = 680$ , yielding the interest rate for Account M, .085%. Instead of converting the decimal into an equivalent percent, the percent sign is written at the end of the decimal value. Because the final interest rate is not correctly converted to percent, the response demonstrates a less than thorough understanding of the task.

THINK  
SOLVE  
EXPLAIN

Mr. Adler invested a total of \$12,000 in two bank accounts, Account L and Account M. The simple interest rate on Account L was 6% per year.

**Part A** Mr. Adler invested \$4000 in Account L. How much interest did he earn from that account after 1 year? Show work or write an explanation to support your answer.

$$I = prt$$

$$I = 4000 \times .06 \times 1 = 240$$

\$

Amount of Interest Earned After 1 Year \$240

**Part B** The remainder of Mr. Adler's \$12,000 was invested in Account M. After 1 year, the combined total of principal and interest in both of his accounts was \$12,920. What was the simple interest rate of Account M? Show work or write an explanation to support your answer.

$\begin{array}{r} 12,000 \\ -4,000 \\ \hline 8,000 \end{array}$	$\begin{array}{r} 12,920 \\ -240 \\ \hline 12,680 \\ -8,000 \\ \hline \$4,680 \end{array}$	$\begin{array}{r} 920 \\ -240 \\ \hline 680 \end{array}$
---	--	--

Interest Rate of Account M 9%

STUDENT RESPONSE

SCORE POINT  
**1**

This response received a score of 1. In *Part A*, the correct amount of interest earned for Account L is found, 240, with supporting work provided. In *Part B*, the amount of principal and interest for Account M is found, 8,000 and 680 respectively. No further work is provided to show how the values are used to answer the question. An inexact answer of 9% is provided on the answer blank. Without demonstrating how the values found in *Part B* are used to arrive at this inexact answer, this response demonstrates only a partial understanding of the task.

THINK  
SOLVE  
EXPLAIN

Mr. Adler invested a total of \$12,000 in two bank accounts, Account L and Account M. The simple interest rate on Account L was 6% per year.

**Part A** Mr. Adler invested \$4000 in Account L. How much interest did he earn from that account after 1 year? Show work or write an explanation to support your answer.

$$\begin{array}{r}
 8000 \quad 4000 \\
 \times .06 \\
 \hline
 240 \\
 \#000 \\
 12000
 \end{array}
 \qquad
 \begin{array}{r}
 4000 \\
 240 \\
 \hline
 4240
 \end{array}$$

Amount of Interest Earned After 1 Year 240

**Part B** The remainder of Mr. Adler’s \$12,000 was invested in Account M. After 1 year, the combined total of principal and interest in both of his accounts was \$12,920. What was the simple interest rate of Account M? Show work or write an explanation to support your answer.

Interest Rate of Account M \_\_\_\_\_

STUDENT RESPONSE

SCORE POINT  
**1**

This response received a score of 1. In *Part A*, the correct amount of interest earned in Account L is found, 240, with supporting work provided. Although additional work provides the principal and interest added together, this work is not used. *Part B* is not attempted. By not attempting *Part B*, a less than thorough understanding of the mathematical concept is demonstrated.

THINK  
SOLVE  
EXPLAIN

Mr. Adler invested a total of \$12,000 in two bank accounts, Account L and Account M. The simple interest rate on Account L was 6% per year.

**Part A** Mr. Adler invested \$4000 in Account L. How much interest did he earn from that account after 1 year? Show work or write an explanation to support your answer.

Amount of Interest Earned After 1 Year \$240

**Part B** The remainder of Mr. Adler’s \$12,000 was invested in Account M. After 1 year, the combined total of principal and interest in both of his accounts was \$12,920. What was the simple interest rate of Account M? Show work or write an explanation to support your answer.

Interest Rate of Account M \_\_\_\_\_

STUDENT RESPONSE

SCORE POINT  
0

This response received a score of 0. *Part A* has the correct amount of interest earned for Account L, \$240, without supporting work. *Part B* is not attempted. Even though the answer in *Part A* is correct, finding only the interest earned in Account L without providing support is not considered an adequate demonstration of mathematical knowledge. The response demonstrates an insufficient understanding of the task and no credit is earned.

THINK  
SOLVE  
EXPLAIN

Mr. Adler invested a total of \$12,000 in two bank accounts, Account L and Account M. The simple interest rate on Account L was 6% per year.

**Part A** Mr. Adler invested \$4000 in Account L. How much interest did he earn from that account after 1 year? Show work or write an explanation to support your answer.

Amount of Interest Earned After 1 Year \$240

**Part B** The remainder of Mr. Adler’s \$12,000 was invested in Account M. After 1 year, the combined total of principal and interest in both of his accounts was \$12,920. What was the simple interest rate of Account M? Show work or write an explanation to support your answer.

Interest Rate of Account M 8%

STUDENT RESPONSE

SCORE POINT  
**0**

This response received a score of 0. *Part A* has the correct amount of interest earned for Account L, \$240, without supporting work. *Part B* has no work, with an answer of 8% in the answer blank. Without support for how the 8% is found, it is not considered correct. Providing the interest earned in Account L without support and only an approximate interest rate for Account M does not demonstrate an understanding of the mathematics concepts. The response demonstrates an insufficient understanding of the task and no credit is earned.

## Appendix A

### FCAT Mathematics Short-Response Rubric

#### General Short-Response Scoring Rubric

THINK
SOLVE
EXPLAIN

Score	Description
<b>2</b>	<p>A score of two indicates that the student has demonstrated a thorough understanding of the mathematics concepts and/or procedures embodied in the task. The student has completed the task correctly, in a mathematically sound manner. When required, student explanations and/or interpretations are clear and complete. The response may contain minor flaws that do not detract from the demonstration of a thorough understanding.</p>
<b>1</b>	<p>A score of one indicates that the student has provided a response that is only partially correct. For example, the student may provide a correct solution, but may demonstrate some misunderstanding of the underlying mathematical concepts or procedures. Conversely, a student may provide a computationally incorrect solution but could have applied appropriate and mathematically sound procedures, or the student's explanation could indicate an understanding of the task, despite the error.</p>
<b>0</b>	<p>A score of zero indicates that the student has provided no response at all, or a completely incorrect or uninterpretable response, or demonstrated insufficient understanding of the mathematics concepts and/or procedures embodied in the task. For example, a student may provide some work that is mathematically correct, but the work does not demonstrate even a rudimentary understanding of the primary focus of the task.</p>



# FCAT Mathematics Extended-Response Rubric

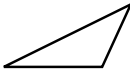
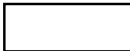

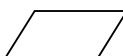

THINK
SOLVE
EXPLAIN

## General Extended-Response Scoring Rubric

Score	Description
4	<p>A score of four is a response in which the student demonstrates a thorough understanding of the mathematics concepts and/or procedures embodied in the task. The student has responded correctly to the task, used mathematically sound procedures, and provided clear and complete explanations and interpretations.</p> <p>The response may contain minor flaws that do not detract from the demonstration of a thorough understanding.</p>
3	<p>A score of three is a response in which the student demonstrates an understanding of the mathematics concepts and/or procedures embodied in the task. The student's response to the task is essentially correct with the mathematical procedures used and the explanations and interpretations provided demonstrating an essential but less than thorough understanding.</p> <p>The response may contain minor flaws that reflect inattentive execution of mathematical procedures or indications of some misunderstanding of the underlying mathematics concepts and/or procedures.</p>
2	<p>A score of two indicates that the student has demonstrated only a partial understanding of the mathematics concepts and/or procedures embodied in the task. Although the student may have used the correct approach to obtaining a solution or may have provided a correct solution, the student's work lacks an essential understanding of the underlying mathematical concepts.</p> <p>The response contains errors related to misunderstanding important aspects of the task, misuse of mathematical procedures, or faulty interpretations of results.</p>
1	<p>A score of one indicates that the student has demonstrated a very limited understanding of the mathematics concepts and/or procedures embodied in the task. The student's response is incomplete and exhibits many flaws. Although the student's response has addressed some of the conditions of the task, the student reached an inadequate conclusion and/or provided reasoning that was faulty or incomplete.</p> <p>The response exhibits many flaws or may be incomplete.</p>
0	<p>A score of zero indicates that the student has provided no response at all, or a completely incorrect or uninterpretable response, or demonstrated insufficient understanding of the mathematics concepts and/or procedures embodied in the task. For example, a student may provide some work that is mathematically correct, but the work does not demonstrate even a rudimentary understanding of the primary focus of the task.</p>

## Appendix B

### Grades 6–8 FCAT Mathematics Reference Sheet

<b>Area</b>		
	Triangle	$A = \frac{1}{2}bh$
	Rectangle	$A = lw$
	Trapezoid	$A = \frac{1}{2}h(b_1 + b_2)$
	Parallelogram	$A = bh$
	Circle	$A = \pi r^2$

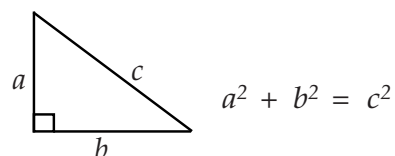
In a polygon, the sum of the measures of the interior angles is equal to  $180(n - 2)$ , where  $n$  represents the number of sides.

<b>KEY</b>	
$b$ = base	$d$ = diameter
$h$ = height	$r$ = radius
$l$ = length	$A$ = area
$w$ = width	$C$ = circumference
S.A. = surface area	$V$ = volume
Use 3.14 or $\frac{22}{7}$ for $\pi$ .	



#### Circumference

$$C = \pi d \quad \text{or} \quad C = 2\pi r$$

#### Pythagorean Theorem



#### Volume/Capacity

	Right Circular Cylinder	$V = \pi r^2 h$
	Rectangular Prism	$V = lwh$

#### Total Surface Area

$$S.A. = 2\pi r h + 2\pi r^2$$

$$S.A. = 2(lw) + 2(hw) + 2(lh)$$

#### Conversions

1 yard = 3 feet = 36 inches  
 1 mile = 1760 yards = 5280 feet  
 1 acre = 43,560 square feet  
 1 hour = 60 minutes  
 1 minute = 60 seconds

1 liter = 1000 milliliters = 1000 cubic centimeters  
 1 meter = 100 centimeters = 1000 millimeters  
 1 kilometer = 1000 meters  
 1 gram = 1000 milligrams  
 1 kilogram = 1000 grams

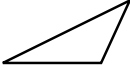
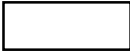
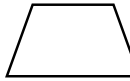
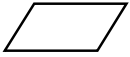

1 cup = 8 fluid ounces  
 1 pint = 2 cups  
 1 quart = 2 pints  
 1 gallon = 4 quarts

1 pound = 16 ounces  
 1 ton = 2000 pounds

Metric numbers with four digits are presented without a comma (e.g., 9960 kilometers). For metric numbers greater than four digits, a space is used instead of a comma (e.g., 12 500 liters).








## Grades 9–10 FCAT Mathematics Reference Sheet

<b>Area</b>		<b>KEY</b>
	Triangle	$b$ = base $d$ = diameter $h$ = height $r$ = radius $l$ = length $A$ = area $w$ = width $C$ = circumference $\ell$ = slant height $V$ = volume <i>S.A.</i> = surface area
	Rectangle	
	Trapezoid	
	Parallelogram	
	Circle	
		Use 3.14 or $\frac{22}{7}$ for $\pi$ .

### Circumference

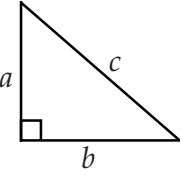
$$C = \pi d \quad \text{or} \quad C = 2\pi r$$

<b>Volume/Capacity</b>		<b>Total Surface Area</b>
	Right Circular Cone	$S.A. = \frac{1}{2}(2\pi r)\ell + \pi r^2$ or $S.A. = \pi r \ell + \pi r^2$
	Right Square Pyramid	
	Sphere	$V = \frac{4}{3}\pi r^3$ $S.A. = 4\pi r^2$
	Right Circular Cylinder	$V = \pi r^2 h$ $S.A. = 2\pi r h + 2\pi r^2$
	Rectangular Prism	$V = lwh$ $S.A. = 2(lw) + 2(hw) + 2(lh)$

In the following formulas,  $n$  represents the number of sides.

- In a polygon, the sum of the measures of the interior angles is equal to  $180(n - 2)$ .
- In a regular polygon, the measure of an interior angle is equal to  $\frac{180(n - 2)}{n}$ .

## Grades 9–10 FCAT Mathematics Reference Sheet

<p>Pythagorean theorem:</p>  $a^2 + b^2 = c^2$	<p>Distance between two points <math>P_1(x_1, y_1)</math> and <math>P_2(x_2, y_2)</math>:</p> $\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$
<p>Slope-intercept form of an equation of a line:</p> $y = mx + b$ <p>where <math>m</math> = slope and <math>b</math> = the <math>y</math>-intercept.</p>	<p>Midpoint between two points <math>P_1(x_1, y_1)</math> and <math>P_2(x_2, y_2)</math>:</p> $\left( \frac{x_2 + x_1}{2}, \frac{y_2 + y_1}{2} \right)$
<p>Distance, rate, time formula:</p> $d = rt$ <p>where <math>d</math> = distance, <math>r</math> = rate, <math>t</math> = time.</p>	<p>Simple interest formula:</p> $I = prt$ <p>where <math>p</math> = principal, <math>r</math> = rate, <math>t</math> = time.</p>

### Conversions

1 yard = 3 feet = 36 inches  
 1 mile = 1760 yards = 5280 feet  
 1 acre = 43,560 square feet  
 1 hour = 60 minutes  
 1 minute = 60 seconds

1 cup = 8 fluid ounces  
 1 pint = 2 cups  
 1 quart = 2 pints  
 1 gallon = 4 quarts

1 liter = 1000 milliliters = 1000 cubic centimeters  
 1 meter = 100 centimeters = 1000 millimeters  
 1 kilometer = 1000 meters  
 1 gram = 1000 milligrams  
 1 kilogram = 1000 grams

1 pound = 16 ounces  
 1 ton = 2000 pounds

Metric numbers with four digits are presented without a comma (e.g., 9960 kilometers). For metric numbers greater than four digits, a space is used instead of a comma (e.g., 12 500 liters).

## Appendix C

### Scorer Bias

Scorer bias refers to factors that have no basis in the scoring criteria or rubric, but have an effect on a scorer's perception of a student's response. Scorers are trained to avoid these biases because research indicates that biases can interfere with a consistent application of the scoring rubric.

1. **Reactions to Scoring Criteria from Other Assessments, Previous Experience with Instruction, or the Use of the Test or Test Scores.** Do you prefer the scoring criteria of another project, state, or grade level? Do you have an issue with instruction, the appropriateness of the rubric, the soundness of the administration, or the use of the assessment? Your role is to score the responses according to the scoring criteria rather than to react to the scoring criteria, administration procedures, or the use of the assessment.
2. **Appearance of Response.** How does the paper look at first glance? How long is the response? You should not be influenced by handwriting, neatness, and margins. Handwriting ability is not the same as writing ability. The scoring criteria are based on the quality of the response rather than on the appearance of the response.
3. **Knowledge of Topic.** Are you knowledgeable about the topic? When evaluating student responses, you should consistently adhere to the scoring criteria, regardless of your expertise (or lack of expertise) about the topic.
4. **Reactions to Style.** Does the student begin sentences with “And” or “But”; use an informal tone; use first person; use clichés; place the thesis statement in the conclusion rather than in the introduction; use one-sentence paragraphs; or choose a formulaic, a traditional, or a nontraditional organizational structure? Does the use of a particular stylistic or organizational method prejudice your scoring? Are you unduly influenced by the use of one well-turned phrase in what otherwise is a nonillustrative response? Florida's scoring criteria do not mandate a particular style or organizational structure.
5. **Reactions to Content.** Has the student used vulgar or violent content? Is the response mundane? Does the student include information that either subtly or directly identifies the student's culture, ethnicity, religion, gender, sexual preference, or exceptionality? Does the student come across as brash, shy, cute, honest, willing to take a chance, or being like (or unlike) you were at that age? Your views about any of the preceding should never influence your scoring of a response. You should judge the student's ability to communicate, not the student's personality or voice. All scores must reflect the scoring criteria.
6. **Transference in Scoring.** Have many responses looked very similar? Is your scoring prejudiced by previously scored responses? In spite of the sameness or uniqueness of responses, an individual student wrote each response. You are responsible for applying the scoring criteria to each response as if it is the only response. Your judgment of a paper should never be influenced by the characteristics and quality of a previously scored paper.
7. **Well-being of Scorer.** Is your physical or mental state impeding your scoring accuracy? Each student's score must reflect the scoring criteria and not your state of mind, state of health, or state of rest.

## Resources

### FCAT Publications and Products

*The Department of Education (DOE) produces many materials to help educators, students, and parents better understand the FCAT program. A list of FCAT-related publications and products is provided below. Additional information about the FCAT program is available on the FCAT home page of the DOE website at <http://www.fldoe.org>.*

#### *About the FCAT Web Brochure*

This web-based brochure is found on the DOE website at <http://www.firn.edu/doe/sas/fcat/aboutfcat/english/>. English, Spanish, and Haitian Creole brochures provide information about FCAT Reading, Writing+, Mathematics, and Science for Grades 3–11 and to link the reader to other helpful DOE web resources.

#### *Assessment & Accountability Briefing Book*

This book provides an overview of Florida's assessment, school accountability, and teacher certification programs. FCAT topics include frequently asked questions, content assessed by the FCAT, reliability, and validity. This booklet can be downloaded from the DOE website at <http://www.firn.edu/doe/sas/fcat/fcatpub1.htm>.

#### *FCAT Handbook—A Resource for Educators*

This publication provides the first comprehensive look at the FCAT, including history, test content, test format, test development and construction, test administration, and test scoring and reporting. Educator involvement is emphasized, demonstrating how Florida teachers and administrators participate in reviewing test items, determining how standards should be assessed, finding ranges of scores, and providing input on aspects of the test administration process. The PDF version is available on the DOE website at <http://www.firn.edu/doe/sas/fcat/handbk/fcathandbook.html>.

#### *FCAT Myths vs. Facts*

By providing factual information about the FCAT program, this brochure addresses common concerns about the FCAT that are based on myths. It is also available in Spanish and can be downloaded from the DOE website at <http://www.firn.edu/doe/sas/fcat/fcatpub3.htm>.

*FCAT Performance Task Scoring—Practice for Educators (publications and software)*

These materials are designed to help teachers learn to score FCAT Reading, Writing, and Mathematics performance tasks at Grades 4, 5, 8, and 10. A *Trainer's Guide* includes instructions for using the scoring publications and software in teacher education seminars and workshops. The publications mirror the scorer training experiences by presenting samples of student work for teachers to score.

*FCAT Posters*

Elementary, middle, and high school FCAT Reading, Writing+, Science, and Mathematics posters have an instructional focus. Two additional posters provide information about achievement levels and which FCAT tests are given at each grade. A high school poster reminds students about the graduation requirement to pass the FCAT Reading and Mathematics tests and the multiple opportunities available to retake the tests. Posters were delivered to Florida school districts in 2005; limited numbers of these posters are still available from the DOE Assessment office.

*FCAT Released Tests*

*Reading, Grades 3, 4, 7, 8, 9, and 10*

*Mathematics, Grades 3, 4, 7, 8, 9, and 10*

The DOE released FCAT Reading and FCAT Mathematics previously used full tests for Grades 4, 8, and 10 in 2005 and for Grades 3, 7, 9, and 10 in 2006. This web-based release included not only the tests, but also several other important documents including: interactive test books, answer keys, "How to Use the FCAT Released Tests," "How to Score the FCAT Released Tests," and "Frequently Asked Questions about the FCAT Released Tests." These supplemental materials provide many details about the FCAT, especially the range of correct answers and points needed for each achievement level. All materials are available on the DOE website at <http://www.firn.edu/doe/sas/fcatrelease.html>. In 2007 the DOE plans to release FCAT Reading and FCAT Mathematics tests for Grades 5 and 6.

*FCAT Results Folder: A Guide for Parents and Guardians*

This folder is designed for parents and guardians of students in Grades 3–11. It provides information about FCAT student results and allows parents to store student reports for future reference. Spanish and Haitian Creole versions are available. Delivery coincides with the spring delivery of student reports.

*FCAT Test Item Specifications**Reading, Grades 3–5, 6–8, and 9–10**Mathematics, Grades 3–5, 6–8, and 9–10**Science, Grades 5, 8, and 10/11**Writing+ draft versions, Grades 4, 8, and 10*

Defining both the content and the format of the FCAT test questions, the *Specifications* primarily serve as guidelines for item writers and reviewers, but also contain information for educators and the general public. The *Specifications* are designed to be broad enough to ensure test items are developed in several formats to measure the concepts presented in each benchmark. These materials can be downloaded from the DOE website at <http://www.firn.edu/doe/sas/fcat/fcat01.htm>.

*Florida Reads! Report on the 2007 FCAT Reading Released Items (Grades 4, 8 & 10)**Florida Solves! Report on the 2007 FCAT Mathematics Released Items (Grades 5, 8 & 10)**Florida Inquires! Report on the 2007 FCAT Science Released Items (Grades 5, 8 & 11)*

These reports provide information about the scoring of the FCAT Reading, Mathematics, and Science performance tasks displayed on the 2007 student reports. *Florida Reads!* combines Grades 4, 8, and 10 in one document; *Florida Solves!* covers Grades 5, 8, and 10; and *Florida Inquires!* includes Grades 5, 8, and 11. The reports are distributed each May and are also posted to the DOE website at <http://www.firn.edu/doe/sas/fcat/fcatflwrites.html>.

*Florida Writes! Report on the 2007 FCAT Writing+ Assessment, Grade 4**Florida Writes! Report on the 2007 FCAT Writing+ Assessment, Grade 8**Florida Writes! Report on the 2007 FCAT Writing+ Assessment, Grade 10*

Each grade-level publication describes the content and application of the FCAT Writing+ tests and offers suggestions for activities that may be helpful in preparing students for the assessments. The reports are distributed each May and are also posted to the DOE website at <http://www.firn.edu/doe/sas/fcat/fcatflwrites.html>.

*Frequently Asked Questions About FCAT*

This brochure provides answers to frequently asked questions about the FCAT program and is available on the DOE website at <http://www.firn.edu/doe/sas/fcat/fcatpub3.htm>.

*Keys to FCAT, Grades 3–5, 6–8, and 9–11*

These booklets are distributed each January and contain information for parents and students preparing for FCAT Reading, Writing+, Mathematics, and Science. *Keys to FCAT* are translated into Spanish and Haitian Creole and are available, along with the English version, on the DOE website at <http://www.firn.edu/doe/sas/fcat/fcatkeys.htm>.

*Lessons Learned—FCAT, Sunshine State Standards and Instructional Implications*

This document provides an analysis of previous years' FCAT results and contains analyses of FCAT Reading, Writing, and Mathematics state-level data through 2000. The PDF version is available on the DOE website at <http://www.firn.edu/doe/sas/fcat/fclesn02.htm>. The DOE is currently working on the next version of *Lessons Learned* for FCAT Reading and Mathematics that will analyze data from 2001–2005. The planned release in print and on the DOE website is during Fall 2007.

*Sample Test Materials for the FCAT*

*Reading and Mathematics, Grades 3–10*

*Science, Grades 5, 8, and 11*

*Writing+, Grades 4, 8, and 10*

These materials are produced and distributed each fall for teachers to use with students. The student's test booklet contains practice questions and hints for answering them. The teacher's answer key provides the correct answer, an explanation for the correct answer, and also indicates the assessed SSS benchmark. These booklets are available in PDF format on the DOE website at <http://www.firn.edu/doe/sas/fcat/fcatsmpl.htm>.

*The New FCAT NRT: Stanford Achievement Test, Tenth Edition (SAT10)*

This brochure outlines differences between the previous FCAT NRT (SAT9) and the current FCAT NRT (SAT10). It is available in PDF format on the DOE website at <http://www.firn.edu/doe/sas/fcat/fcatpub2.htm>.

*Understanding FCAT Reports*

This booklet provides information about the FCAT student, school, and district reports for the recent test administration. Samples of reports, explanations about the reports, and a glossary of technical terms are included. Distribution to districts is scheduled to coincide with the delivery of student reports each May. The booklet can be downloaded from the DOE website at <http://www.firn.edu/doe/sas/fcat/fcatpub2.htm>.

*What every teacher should know about FCAT*

This document provides suggestions for all subject-area teachers to use in helping their students be successful on the FCAT. It can be downloaded from the DOE website at <http://www.firn.edu/doe/sas/fcat/fcatpub2.htm>.





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