
Student Name

The intent of these sample test materials is to orient teachers and students to the types of questions on FCAT 2.0 tests. By using these materials, students will become familiar with the types of items and response formats they will see on the actual test. The sample questions and answers are not intended to demonstrate the length of the actual test, nor should student responses be used as an indicator of student performance on the actual test. Additional information about test items can be found in the *FCAT 2.0 Test Item Specifications* at <http://fcats.fldoe.org/fcat2/itemspecs.asp>.

The FCAT 2.0 Mathematics tests and sample questions and answers are based on the 2007 Next Generation Sunshine State Standards.

The sample questions for students and the sample answers for teachers will only be available online, at <http://fcats.fldoe.org/fcat2/fcatitem.asp>.

Directions for Answering the Mathematics Sample Questions

Mark your answers in this booklet. If you don't know how to work a problem, ask your teacher to explain it to you. Your teacher has the answers to the sample questions.

You may need formulas and conversions to help you solve some of the problems. You may refer to the Grade 5 FCAT 2.0 Mathematics Reference Sheet on page 4 as often as you like.

Calculators and rulers are NOT to be used with the Grade 5 FCAT 2.0 Mathematics Sample Questions.

FCAT 2.0 Question Symbol



This symbol appears next to questions that require you to fill in your answer on a grid. There may be more than one correct way to fill in a response grid. You **MUST** fill in the bubbles accurately to receive credit for your answer. A correct answer to each of these questions is worth 1 point.

How to Complete the Grade 5 Response Grids



Mathematics test questions with this symbol require that you fill in a grid. There may be more than one correct way to fill in a response grid. This section shows you different ways the response grids may be completed.

Directions

1. Work the problem and find an answer.
2. Write your answer in the answer boxes at the top of the grid.
 - For whole-number, whole-number money, and percent grids:
 - Print your answer with the first digit in the left answer box OR with the last digit in the right answer box.
 - Print only one digit in each answer box. Do NOT leave a blank answer box in the middle of an answer.
 - For decimal and decimal-money grids:
 - Use the decimal point to decide where to place your answer.
3. Fill in a bubble under each box in which you wrote your answer.
 - Fill in one and ONLY one bubble for each answer box. Do NOT fill in a bubble under an unused answer box.
 - Fill in each bubble by making a solid black mark that completely fills the circle.
 - You MUST fill in the bubbles accurately to receive credit for your answer.

Whole-Number Grid

$126 \times 3 =$

3	7	8		
0	0	0	0	0
1	1	1	1	1
2	2	2	2	2
●	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	●	7	7	7
8	8	●	8	8
9	9	9	9	9

or

		3	7	8
0	0	0	0	0
1	1	1	1	1
2	2	2	2	2
3	3	●	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	●	7
8	8	8	8	●
9	9	9	9	9

Percent Grid

What percent is equivalent to $\frac{8}{10}$?

		8	0	%
0	0	0	●	
1	1	1	1	
2	2	2	2	
3	3	3	3	
4	4	4	4	
5	5	5	5	
6	6	6	6	
7	7	7	7	
8	8	●	8	
9	9	9	9	

or

8	0			%
0	●	0	0	
1	1	1	1	
2	2	2	2	
3	3	3	3	
4	4	4	4	
5	5	5	5	
6	6	6	6	
7	7	7	7	
●	8	8	8	
9	9	9	9	

Money Grids

$\$3.73 - \$0.65 = \$$

	3	.	0	8
0	0		●	0
1	1		1	1
2	2		2	2
3	●		3	3
4	4		4	4
5	5		5	5
6	6		6	6
7	7		7	7
8	8		8	●
9	9		9	9

$\$312 + \$276 = \$$

	5	8	8
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	●	5	5
6	6	6	6
7	7	7	7
8	8	●	●
9	9	9	9

or

	5	8	8
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
●	5	5	5
6	6	6	6
7	7	7	7
8	●	●	8
9	9	9	9

Decimal Grid

What decimal is equivalent to $\frac{1}{2}$?

(Note: Other correct gridded responses may include 0.5, .5, 0.50, 0.500, and .500)

		.	5	0
0	0		0	●
1	1		1	1
2	2		2	2
3	3		3	3
4	4		4	4
5	5		●	5
6	6		6	6
7	7		7	7
8	8		8	8
9	9		9	9

$1.2 + 3.5 =$

	4	.	7	
0	0		0	0
1	1		1	1
2	2		2	2
3	3		3	3
4	●		4	4
5	5		5	5
6	6		6	6
7	7		●	7
8	8		8	8
9	9		9	9

Grade 5 FCAT 2.0 Mathematics Reference Sheet

Area

Rectangle	$A = bh$
Parallelogram	$A = bh$
Triangle	$A = \frac{1}{2}bh$ or $A = (bh) \div 2$
Trapezoid	$A = \frac{1}{2}h(b_1 + b_2)$ or $A = h(b_1 + b_2) \div 2$

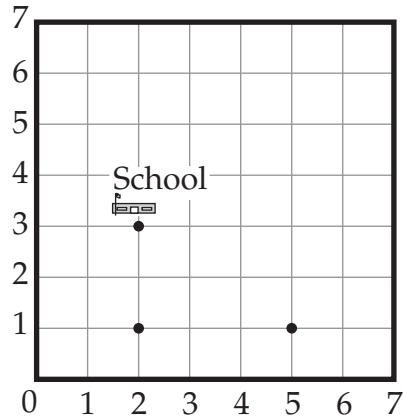
KEY	
b = base	A = area
h = height	B = area of base
w = width	V = volume
$S.A.$ = surface area	

<p>Volume of Rectangular Prism</p> $V = bwh$ or $V = Bh$	<p>Surface Area of Rectangular Prism</p> $S.A. = 2bh + 2bw + 2hw$
--------------------------------------------------------------------	--------------------------------------------------------------------------

<p style="text-align: center;">Customary Conversions</p> <p>1 foot = 12 inches 1 yard = 3 feet 1 mile = 5,280 feet 1 mile = 1,760 yards 1 acre = 43,560 square feet</p>	<p style="text-align: center;">Customary Conversions</p> <p>1 cup = 8 fluid ounces 1 pint = 2 cups 1 quart = 2 pints 1 gallon = 4 quarts 1 pound = 16 ounces 1 ton = 2,000 pounds</p>
<p style="text-align: center;">Metric Conversions</p> <p>1 centimeter = 10 millimeters 1 meter = 100 centimeters 1 meter = 1000 millimeters 1 kilometer = 1000 meters</p>	<p style="text-align: center;">Metric Conversions</p> <p>1 liter = 1000 milliliters 1 liter = 1000 cubic centimeters</p> <p>1 gram = 1000 milligrams 1 kilogram = 1000 grams</p>
<p style="text-align: center;">Time Conversions</p> <p>1 minute = 60 seconds 1 hour = 60 minutes 1 day = 24 hours 1 week = 7 days 1 year = 365 days 1 year = 52 weeks</p>	

*Note: 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).

- 1 The track team warms up for practice by jogging through the neighborhood near the school. A coordinate grid of the neighborhood is shown below.



The team runs from the school along a path that forms a rectangle. Three of the vertices of the rectangle are shown on the grid. What are the coordinates of the fourth vertex of the rectangle?

- (A) (2, 5)
- (B) (3, 5)
- (C) (5, 3)
- (D) (5, 4)

- 2 Caitlyn set a goal to swim 675 laps in her pool during summer vacation. She will swim 12 laps each day. What is the least **whole** number of days Caitlyn will swim to reach her goal?



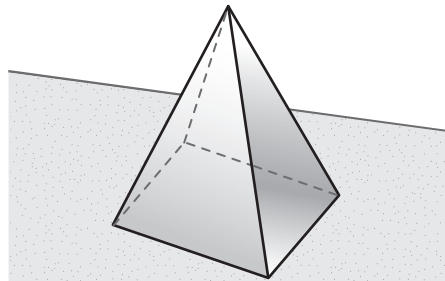
0	0	0	0	0
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9

- 3** The three Gibbons brothers are all 3 years apart in age. The total of their ages equals 33 years. What is the age of the oldest brother?



0	0	0	0	0
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9

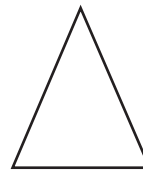
- 4** Kayla received a special award at the end of the school year. Her award, shown below, is a rectangular pyramid.



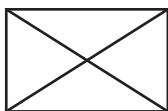
Which of the following could be a top view of Kayla's award?



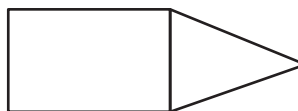
(F)



(H)

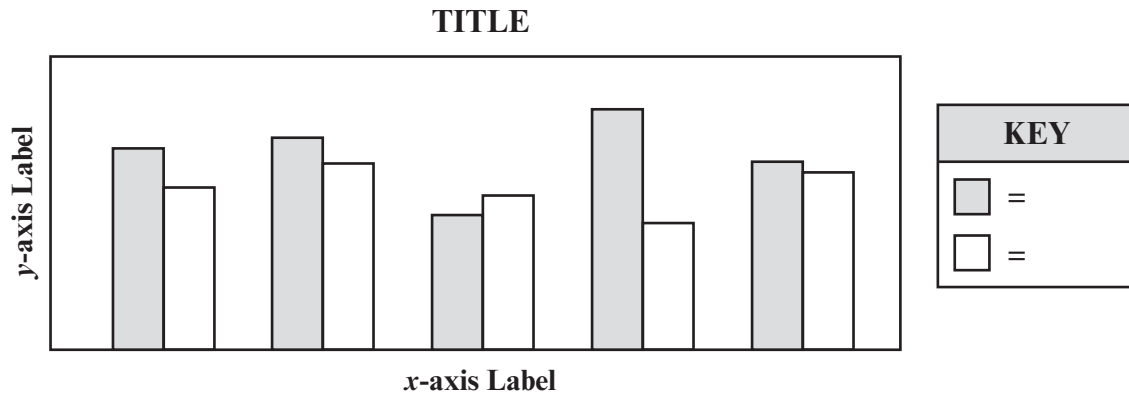


(G)



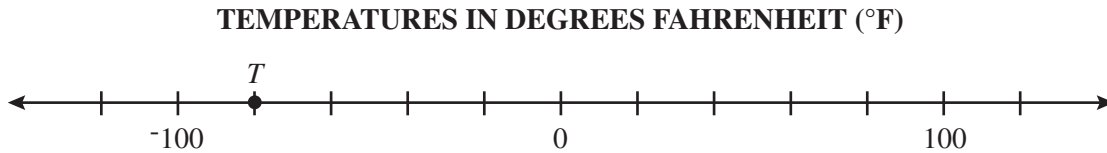
(I)

- 5 Which of the following situations should NOT be represented by the double bar graph shown below?



- Ⓐ comparing the prices of five different kinds of apples sold in October to the prices of the same kinds of apples sold in April
- Ⓑ comparing the number of boys to the number of girls who compete in five afterschool activities
- Ⓒ comparing the heights of five different mountains in each of two different continents
- Ⓓ comparing the number of cameras sold in two different stores over five months

- 6 The lowest known temperature for Alaska was recorded in 1971. This temperature, in degrees Fahrenheit ($^{\circ}\text{F}$), is represented by point T on the number line below.



Which of the following temperatures, in $^{\circ}\text{F}$, is **higher** than the temperature represented by point T ?

- (F) -70
- (G) -80
- (H) -90
- (I) -100

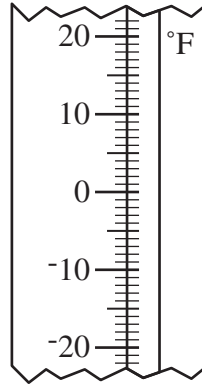
- 7 In two days, David and James sold the same number of tickets to a Caribbean dinner. David sold 17 tickets on Monday and 30 tickets on Tuesday. James sold 22 tickets on Tuesday. The equation below can be used to find s , the number of tickets James sold on Monday.

$$17 + 30 = s + 22$$

How many tickets did James sell on Monday?

0	0	0	0	0
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9

- 8 Several sources have recorded the lowest temperature in Florida as -2 degrees Fahrenheit ($^{\circ}\text{F}$) on February 13, 1899. However, according to one website, the lowest recorded temperature in Florida was actually 4° warmer.



What temperature would this website have shown on the above thermometer for Florida's lowest recorded temperature?

- (A) 2°F
- (B) -2°F
- (C) 6°F
- (D) -6°F

- 9 Christy wanted to find the surface area of a square pyramid. She wrote the expression shown below.



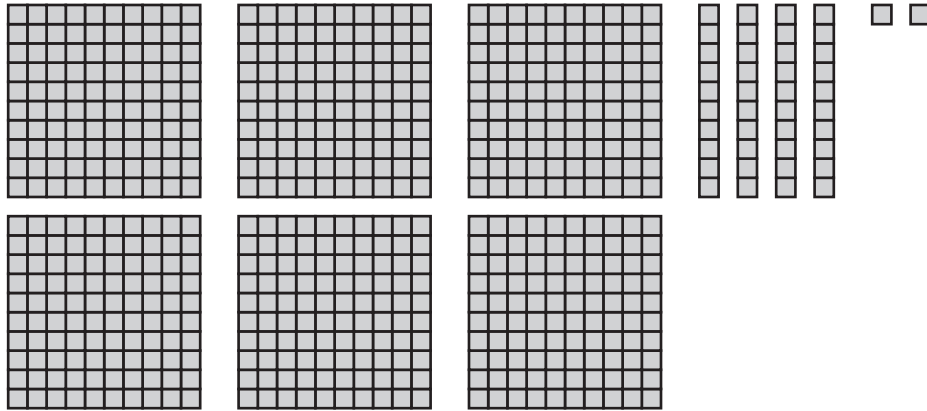
$$(24 \cdot 5) \div 2 + 6^2$$

What is the value of the above expression?

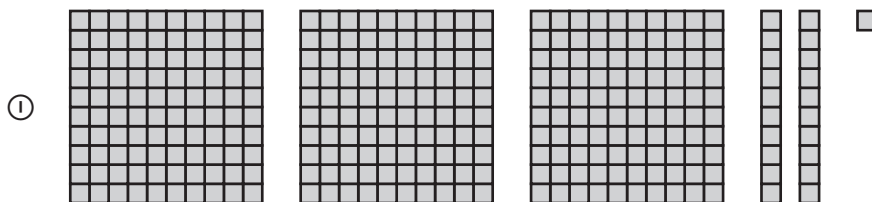
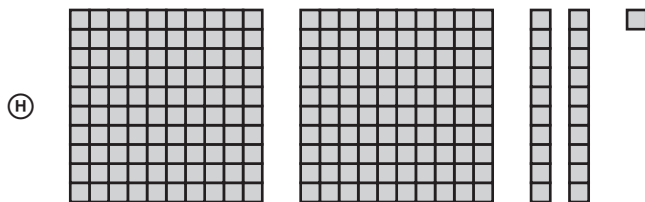
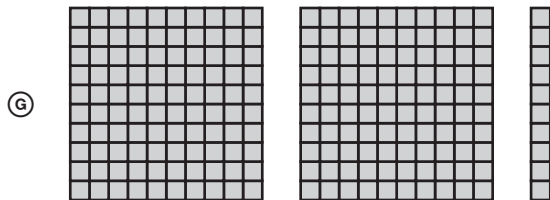
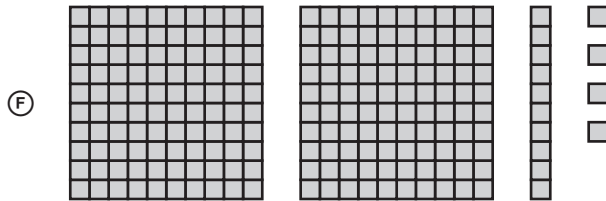
0	0	0	0	0
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9

- 10 Ella needs to sort the base-ten blocks shown below into 3 equal groups.

Ella's Base-Ten Blocks



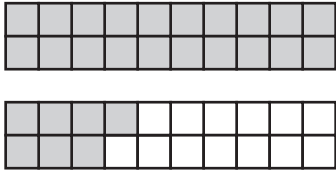
Which model could represent one of the groups of base-ten blocks?



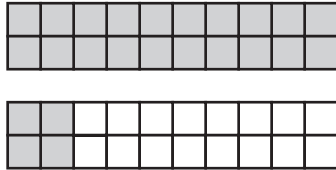
- 11 Both Alex and Stephanie have some coins in their pockets. The shaded areas in the diagrams below represent the value of the coins they have.



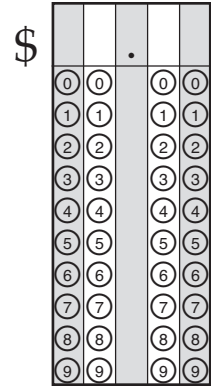
Value of Alex's Coins



Value of Stephanie's Coins

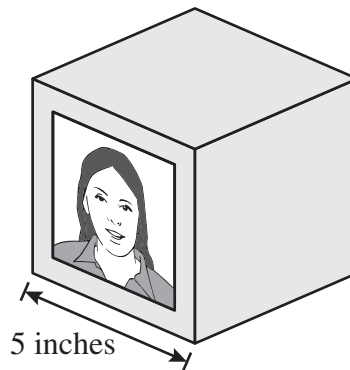


KEY	
	= \$0.05



What is the total value, in dollars, of the coins that Alex and Stephanie have?

- 12 Carole has a cube-shaped photo frame with the dimension shown below.



Which expression should Carole use to find the surface area, in square inches, of her cube-shaped photo frame?

- (A) $5 \times 5 \times 1$
- (B) $5 \times 5 \times 3$
- (C) $5 \times 5 \times 5$
- (D) $5 \times 5 \times 6$

- 13 Emily measured her bamboo plant each day for 5 days. The table below shows the height of the plant each day.

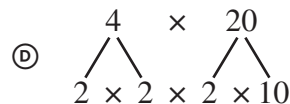
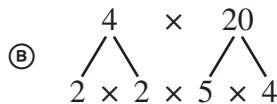
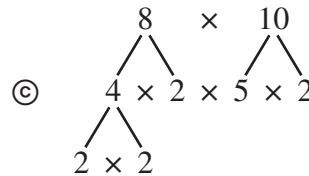
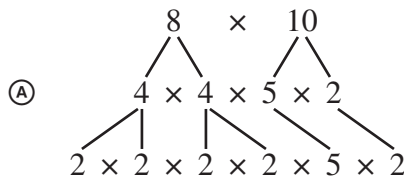
HEIGHT OF BAMBOO PLANT

Day	1	2	3	4	5
Height (in inches)	10	12	13	15	17

Which is a true statement about the type of graph Emily should use to display these data?

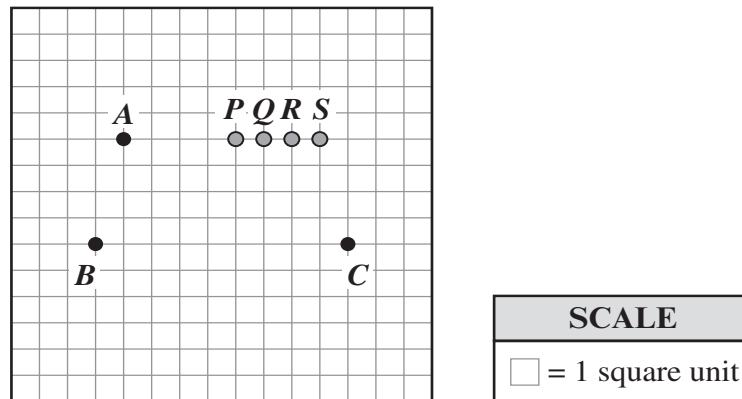
- (F) She should use a line graph because the data are continuous.
- (G) She should use a line graph because the data are discrete.
- (H) She should use a bar graph because the data are continuous.
- (I) She should use a bar graph because the data are discrete.

- 14 Which of the following shows a factor tree that correctly represents the prime factorization of 80?



- 15** A carpenter is measuring the width of a window in a house. Which of the following methods would provide him with the most precise measurement?
- (F) He should measure the width of the window to the nearest foot.
 - (G) He should measure the width of the window to the nearest inch.
 - (H) He should measure the width of the window to the nearest $\frac{1}{4}$ foot.
 - (I) He should measure the width of the window to the nearest $\frac{1}{2}$ inch.
- 16** Tori plotted points A , B , and C on a grid, as shown below.

Tori's Trapezoid



Which of the following points should Tori plot to create a trapezoid that has an area of exactly 32 square units?

- (A) point P
- (B) point Q
- (C) point R
- (D) point S

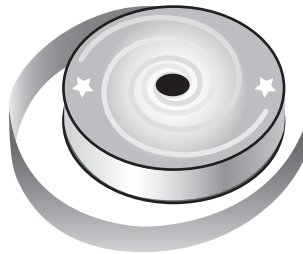
- 17 Last year, a gray whale made a round-trip journey from Alaska to the shores of Mexico. The one-way journey was 6,272 miles, and the gray whale traveled 80 miles each day. Which of the following is closest to the number of days it took the gray whale to travel from Alaska to Mexico and back again last year?

- (F) 78
 (G) 157
 (H) 1,568
 (I) 12,544

- 18 Ms. Mather needs 144 inches of ribbon for her craft project. To save money, she will buy the ribbon by the yard. Each yard of ribbon costs \$6, not including tax.



Ribbon



What is the least number of **yards** of ribbon Ms. Mather needs to buy?

0	0	0	0	0
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9

- 19 Sam is mailing some items to his brother. Before he went to the post office, he weighed the items. The table below shows the weight of each item.

ITEMS TO MAIL

Item	Weight
Computer paper	$5\frac{7}{8}$ pounds
Laptop computer	$3\frac{1}{4}$ pounds
Recipe book	$\frac{15}{16}$ pounds

Between which two weights is the total weight of all three items?

- Ⓐ between $9\frac{1}{2}$ and 10 pounds
- Ⓑ between 10 and $10\frac{1}{8}$ pounds
- Ⓒ between $10\frac{1}{4}$ and $10\frac{1}{2}$ pounds
- Ⓓ between $10\frac{1}{2}$ and 11 pounds



FLORIDA DEPARTMENT OF EDUCATION

www.fldoe.org

Copyright Statement for This Office of Assessment Publication

Authorization for reproduction of this document is hereby granted to persons acting in an official capacity within the Uniform System of Public K–12 Schools as defined in Section 1000.01(4), Florida Statutes. The copyright notice at the bottom of this page must be included in all copies.

All trademarks and trade names found in this publication are the property of their respective owners and are not associated with the publishers of this publication.

This publication is provided by the Florida Department of Education to Florida public schools free of charge and is not intended for resale.

Permission is NOT granted for distribution or reproduction outside of the Uniform System of Public K–12 Schools or for commercial distribution of the copyrighted materials without written authorization from the Florida Department of Education. Questions regarding use of these copyrighted materials should be sent to the following:

The Administrator
Office of Assessment
Florida Department of Education
Tallahassee, Florida 32399-0400

Copyright © 2012
State of Florida
Department of State



The Florida Department of Education and its test contractors currently employ strategies to protect the environment in the production and destruction of FCAT 2.0 materials. The Department encourages schools and districts to recycle nonsecure FCAT 2.0 interpretive publications after use.