

# MATHEMATICS

# Grade 7

**2011 Released Test Questions**

These released questions represent selected TEKS student expectations for each reporting category. These questions are samples only and do not represent all the student expectations eligible for assessment.

- 1 The names of 5 students and their scores on their last science test are shown in the table below.

Science Test Scores

Student	Score
Gretchen	$\frac{21}{25}$
Héctor	$\frac{23}{25}$
Isabella	$\frac{22}{25}$
Jocelyn	$\frac{19}{25}$
Katy	$\frac{20}{25}$

Which students each earned a score above 85%?

- A Gretchen, Héctor, and Isabella
- B Héctor and Isabella
- C Isabella and Katy
- D Gretchen, Héctor, and Jocelyn

2 Mr. Franklin asked each of his 30 students to select their favorite radio station.

- $\frac{1}{3}$  of the students chose Station K.
- $\frac{1}{5}$  of the students chose Station L.
- The remaining students chose Station M.

How many students chose Station M as their favorite radio station?

- A 10
- B 14
- C 6
- D 4

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3 A generator can run for 11 hours on 3 gallons of gasoline. If the gasoline costs \$3 per gallon, which is closest to the cost per hour to run the generator?

- A \$9.00
- B \$33.00
- C \$0.82
- D \$1.22

- 4 A 24,000-gallon pool is being filled at a rate of 40 gallons per minute. At this rate, how many minutes will it take to fill this pool  $\frac{3}{4}$  full?
- A 450 min
  - B 560 min
  - C 600 min
  - D 150 min
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- 5 Which situation is best represented by the equation below?

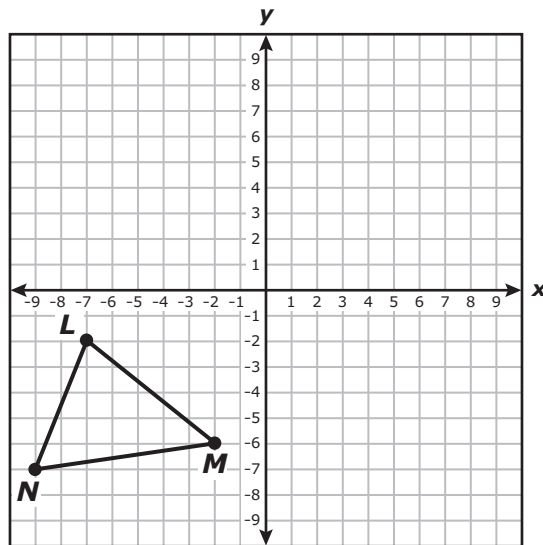
$$3x = 27$$

- A The total cost of a dinner and tip was \$27. If a \$3 tip was included in the total cost, what is  $x$ , the cost of the dinner?
  - B The total cost of a dinner and dessert was \$27. The cost of the dinner was 3 times the cost of the dessert. What is  $x$ , the cost of the dessert?
  - C Three friends went to dinner, and each paid \$27. What is  $x$ , the total amount they spent on dinner?
  - D Three friends went to dinner and paid a total of \$27. If they divided the bill evenly, what is  $x$ , the amount each friend paid?
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- 6 A triangle has 2 angles that each measure  $45^\circ$ . Which of the following best describes this triangle?
- A Right scalene
  - B Right isosceles
  - C Equilateral
  - D Obtuse isosceles

- 7 Which of the following statements is true?
- A All trapezoids are similar.
  - B All isosceles triangles are similar.
  - C All equilateral triangles are similar.
  - D All rectangles are similar.

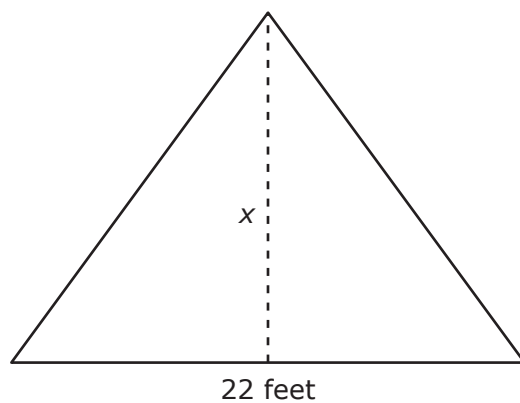
- 8 Triangle  $LMN$  is shown on the coordinate grid below.



If triangle  $LMN$  is reflected across the  $y$ -axis, which of the following best represents a vertex of the resulting triangle?

- A  $(2, -6)$
- B  $(-9, -7)$
- C  $(-7, 2)$
- D  $(-2, 6)$

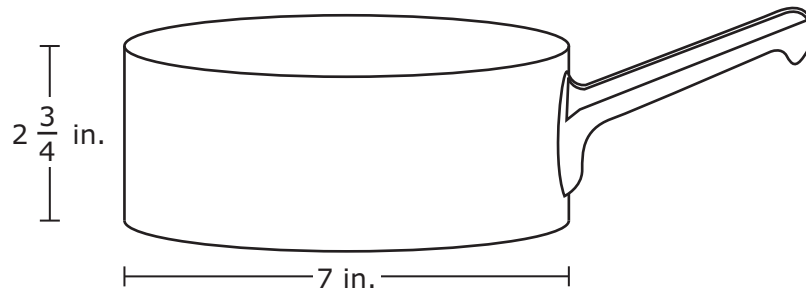
- 9 The side view of a sail on a boat is shown below. The base of the sail is 22 feet long, and the area of the sail is 165 square feet.



What is  $x$ , the height of the sail?

- A 7.5 feet
- B 15 feet
- C 11 feet
- D 30 feet

- 10 A cylindrical pan has the dimensions shown below.



A formula for the volume of a cylinder is  $V = Bh$ . Which equation best represents  $B$ , the area of the base of this pan in square inches?

- A  $B = \pi(3\frac{1}{2})^2$
- B  $B = \pi(7)^2$
- C  $B = 2\pi(7)$
- D  $B = \pi(2\frac{3}{4})(14)$
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- 11 A DVD player is in the shape of a rectangular prism. It has a length of 17 inches, a width of 10.2 inches, and a height of 2 inches. What is the volume of the DVD player in cubic inches?

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

- 12** Marcie and Leah are playing a game by rolling two number cubes with faces numbered 1 through 6. Marcie gets a point when the sum of the two numbers faceup on the cubes is an even number, and Leah gets a point when the sum of the two numbers is greater than 7. The table below shows all possible sums for the two numbers faceup on the cubes.

Sum of Two Number Cubes

		Cube 1					
		1	2	3	4	5	6
Cube 2	1	2	3	4	5	6	7
	2	3	4	5	6	7	8
	3	4	5	6	7	8	9
	4	5	6	7	8	9	10
	5	6	7	8	9	10	11
	6	7	8	9	10	11	12

Which girl is most likely to get a point on the first roll?

- A** Marcie is more likely to get a point, because  $\frac{18}{36} < \frac{21}{36}$ .
- B** The girls are equally likely to get a point, because  $\frac{18}{36} = \frac{18}{36}$ .
- C** Marcie is more likely to get a point, because  $\frac{18}{36} > \frac{15}{36}$ .
- D** Leah is more likely to get a point, because  $\frac{21}{36} > \frac{18}{36}$ .



- 13** The ABC Trucking Company keeps records of the weekly distances driven by each of its drivers. The distances driven by Cheryl during the last 4 weeks are shown in the table.

Distance Driven

Week	Distance (miles)
1	2,892
2	2,892
3	2,967
4	2,763

Which measure of the data would NOT be a good predictor of the number of miles that Cheryl may drive next week?

- A** Mean
- B** Median
- C** Mode
- D** Range

Item Number	Reporting Category	Readiness or Supporting	Content Student Expectation	Process Student Expectation	Correct Answer
1	1	Readiness	7.1(B)		B
2	1	Readiness	7.2(B)	7.13(C)	B
3	1	Supporting	7.2(D)	7.13(B)	C
4	2	Readiness	7.3(B)	7.13(A)	A
5	2	Readiness	7.5(B)	7.14(A)	D
6	3	Supporting	7.6(B)	7.13(C)	B
7	3	Readiness	7.6(D)	7.14(A)	C
8	3	Readiness	7.7(B)	7.13(D)	A
9	4	Readiness	7.9(A)	7.13(B)	B
10	4	Supporting	7.9(B)	7.14(A)	A
11	4	Readiness	7.9(C)		346.8
12	5	Readiness	7.11(B)	7.15(B)	C
13	5	Readiness	7.12(B)		D

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