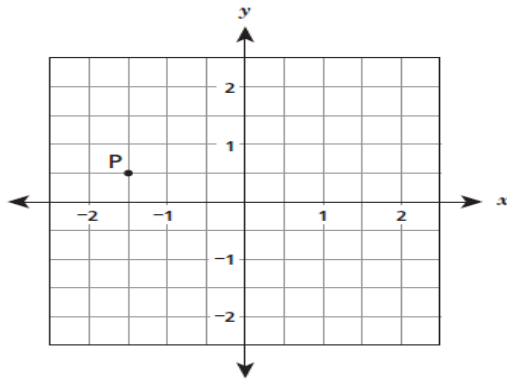


# Common core Test Sample Questions

Grade 6

Math

What is the  $x$ -coordinate of point P on the coordinate grid?



Arnold's entire workout consisted of 10 minutes of warm-up exercises, 25 minutes of lifting weights, and 15 minutes on the treadmill. What was the ratio of the number of minutes he lifted weights to the total number of minutes of his entire workout?

- A 1 : 1
- B 1 : 2
- C 3 : 10
- D 5 : 8

- A  $-1\frac{1}{2}$
- B  $-\frac{1}{2}$
- C  $\frac{1}{2}$
- D  $1\frac{1}{2}$

Arnold's entire workout consisted of 10 minutes of warm-up exercises, 25 minutes of lifting weights, and 15 minutes on the treadmill. What was the ratio of the number of minutes he lifted weights to the total number of minutes of his entire workout?

- A** 1 : 1
- B** 1 : 2
- C** 3 : 10
- D** 5 : 8

Wyatt hiked 6 miles in 2 hours. At this same rate, what is the total number of miles Wyatt could hike in 9 hours?

- A** 3
- B** 7
- C** 21
- D** 27

A punch recipe requires 2 cups of cranberry juice to make 3 gallons of punch. Using the same recipe, what is the amount of cranberry juice needed for 1 gallon of punch?

- A** 3 cups
- B**  $1\frac{1}{2}$  cups
- C** 1 cup
- D**  $\frac{2}{3}$  cup

Omar has  $2\frac{3}{4}$  cups of dough to make dumplings. If he use dumpling, how many whole dumplings can Omar make?

- A** 13
- B** 14
- C** 15
- D** 16

What is the value of  $\frac{5}{6} \div \frac{3}{7}$ ?

What is the solution of the equation below?

$$x + 8.63 = 11.001$$

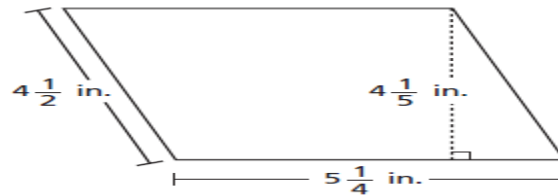
- A**  $x = 19.631$
- B**  $x = 10.138$
- C**  $x = 3.471$
- D**  $x = 2.371$

- A**  $\frac{15}{42}$
- B**  $\frac{18}{35}$
- C**  $\frac{35}{18}$
- D**  $\frac{42}{15}$

A high-speed elevator can rise 480 feet in 30 seconds. Which expression represents the rate, in feet per minute, of the elevator?

- A**  $480 \times 30$
- B**  $480 \div 30$
- C**  $480 \times 2$
- D**  $480 \div 2$

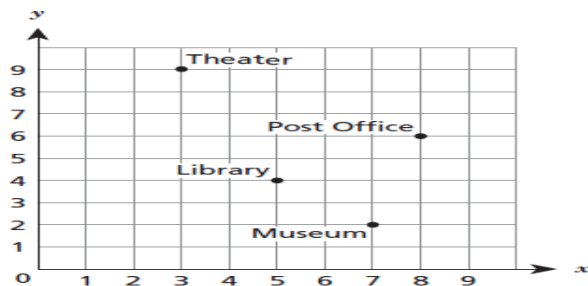
Erica drew the parallelogram below.



Which expression can Erica use to find the area of the parallelogram?

- A**  $5\frac{1}{4} \times 4\frac{1}{5}$
- B**  $\frac{1}{2} \left( 5\frac{1}{4} \times 4\frac{1}{5} \right)$
- C**  $2 \times \left( 5\frac{1}{4} + 4\frac{1}{2} \right)$
- D**  $5\frac{1}{4} \times 4\frac{1}{2}$

The points plotted on the coordinate grid below show different locations in a city. The grid lines represent the city's streets.



The city plans to build a parking lot at the location represented by the coordinates (8, 4). Which building is the shortest driving distance from the parking lot?

- A** theater
- B** library
- C** museum
- D** post office

Solve the equation below.

$$0.3r = 2.1$$

- A**  $r = 0.7$
- B**  $r = 1.8$
- C**  $r = 7$
- D**  $r = 18$

A group of students organized a car wash to raise money for a local charity. The students charged \$5.00 for each car they washed. In 3 hours, they washed 12 cars. At that rate, how much money could they earn from washing cars for eight hours?

- A** \$40.00
- B** \$60.00
- C** \$85.00
- D** \$160.00

Madison and Pedro each created a number pattern that began with the number 0.

- Madison used the rule "Add 4."
- Pedro used the rule "Add 12."

Which statement is true about each corresponding pair of numbers in the two patterns?

- A** Each number in Pedro's pattern is 8 less than the corresponding number in Madison's pattern.
- B** Each number in Pedro's pattern is 8 more than the corresponding number in Madison's pattern.
- C** Each number in Pedro's pattern is 3 times less than the corresponding number in Madison's pattern.
- D** Each number in Pedro's pattern is 3 times more than the corresponding number in Madison's pattern.

Kelly saves \$5 every week. Which expression represents the amount of money, in dollars, Kelly will save in  $w$  weeks?

- A**  $5 + w$
- B**  $5 - w$
- C**  $5w$
- D**  $\frac{5}{w}$

Which two expressions are equivalent for any value of  $y$ ?

- A**  $3(3y + 3)$  and  $6y + 6$
- B**  $3(3y + 3)$  and  $9y + 6$
- C**  $9(y + 3)$  and  $12 + 9y$
- D**  $9(y + 3)$  and  $27 + 9y$

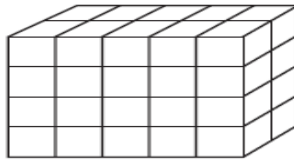
What is the greatest common factor of 56 and 92?

- A** 2
- B** 4
- C** 7
- D** 8

A museum has an aquarium in the shape of a right rectangular prism that is 22.9 meters long, 7.5 meters wide, and 4.6 meters high. What is the volume, rounded to the nearest cubic meter, of the aquarium?

- A** 280
- B** 623
- C** 790
- D** 1,288

The right rectangular prism shown below is made of equal-sized cubes. The side length of each cube is  $2\frac{1}{2}$  inches.



What is the volume, in cubic inches, of the right rectangular prism?

- A** 50
- B** 100
- C** 250
- D** 625

The water level in an ocean bay changes at an average rate of 3 meters per hour. At this rate, how many hours would it take for the water level to change 12 meters?

- A**  $\frac{1}{4}$
- B**  $\frac{1}{3}$
- C** 4
- D** 36

A company paid \$48 for 2 cases of printer paper. Each case contained 12 packages of paper. Next month the company's office manager needs to order 180 packages of the same paper. If the price per package does not change, what would be the total cost of next month's order?

- A** \$90
- B** \$360
- C** \$720
- D** \$1,140

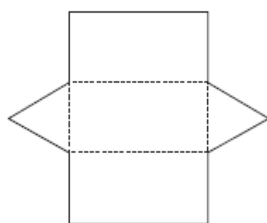
Which equation has the solution  $x = 2$ ?

- A  $2x - 3 = 19$
- B  $3x + 2 = 8$
- C  $4x - 4 = -4$
- D  $5x + 1 = 10$

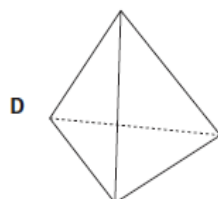
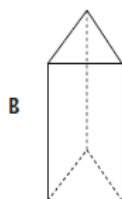
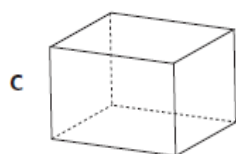
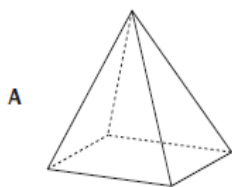
At a concert, 20% of the audience members were teenagers. If the number of teenagers at the concert was 360, what was the total number of audience members?

- A 432
- B 450
- C 1,800
- D 7,200

The net below represents a three-dimensional object.



Which three-dimensional object can be formed from the net?

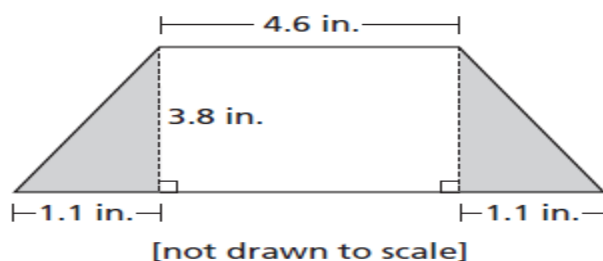


Which expression is equivalent to the expression below?

$$g + g + g + g + g + g$$

- A  $6 + g$
- B  $g^6$
- C  $6g$
- D  $\frac{g}{6}$

The trapezoid shown below has an area of 21.66 square inches.



What is the total area of the shaded sections of the trapezoid?

- A** 2.09 square inches
- B** 4.18 square inches
- C** 4.86 square inches
- D** 8.74 square inches

Keith wants to plot  $-8$  and  $-9$  on a number line. Which statement is true?

- A** Keith should plot  $-8$  to the left of  $-9$  because  $-8 < -9$ .
- B** Keith should plot  $-8$  to the left of  $-9$  because  $-8 > -9$ .
- C** Keith should plot  $-9$  to the left of  $-8$  because  $-9 < -8$ .
- D** Keith should plot  $-9$  to the left of  $-8$  because  $-9 > -8$ .

A leaky faucet is losing water and is filling a 5-gallon bucket every 20 hours. At that rate, how many gallons of water will the faucet leak in 48 hours?

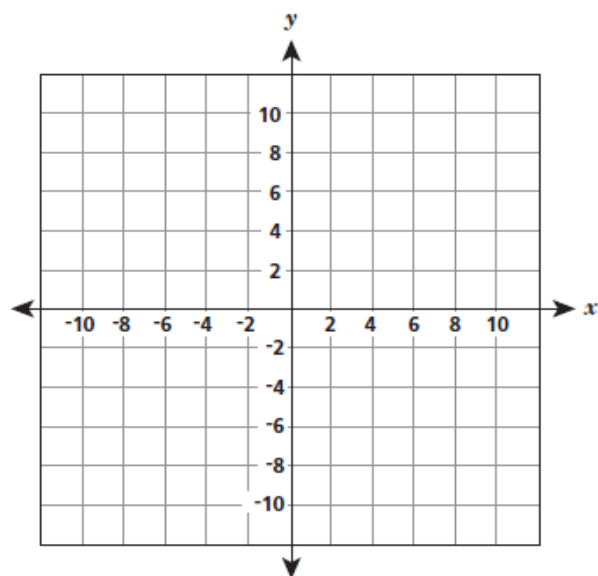
**Show your work.**

Find the value of the expression.

$$24\frac{3}{5} + 4^3 \times \left(8\frac{1}{5} - 2\right)$$

**Show your work.**

The endpoints of a line segment can be represented on a coordinate grid by the points  $A(-4, 1)$  and  $C(-4, -3)$ . Graph and label each of the endpoints of the line segment on the coordinate grid below.



What is the distance, in units, between point A and point C?

To convert a temperature from degrees Celsius to degrees Fahrenheit, the temperature in degrees Celsius is multiplied by 1.8, and then 32 is added to the product.

Write an expression that can be used to convert a temperature from degrees Celsius,  $C$ , to degrees Fahrenheit, and then use that expression to convert 25 degrees Celsius to degrees Fahrenheit.

**Show your work.**



Michelle makes jewelry boxes containing drawers of equal size. The numbers of drawers in three different jewelry boxes and the corresponding total volumes of the drawers are shown in the table below.

**JEWELRY BOXES**

Number of Drawers	Total Volume (cubic inches)
2	5
3	7.5
4	10

Write an equation for the relationship between the number of drawers in the jewelry box,  $d$ , and the total volume of the drawers in the jewelry box,  $V$ . Use your equation to determine the number of drawers in a jewelry box with a total volume of 17.5 cubic inches.

Jorge bought a crate of floor tiles for \$95.94. The crate had 6 boxes of floor tiles. Each box contained 20 floor tiles.

Write and solve an equation to determine the cost per box,  $b$ . Then write and solve a second equation to determine the cost per tile,  $t$ , to the nearest cent.

The biologist is expecting the number of salmon to rise during salmon season. If the ratio stays the same and he expects 120 Steelhead, how many Chinook should he expect to count at the dam?

**Show your work.**

A biologist counted the number of two types of salmon (Chinook and Steelhead) at a dam. He used the table below to record the number of salmon on different days.

On day 5, the biologist counted 16 Chinook. If the ratio of Chinook to Steelhead remained the same as on the previous four days, how many Steelhead should the biologist expect to count on day 5? Record your answer in the table below.

**NUMBER OF SALMON TYPES COUNTED**

Day	Chinook	Steelhead
1	4	10
2	12	30
3	8	20
4	6	15
5	16	

Plot the salmon count data from the table on the coordinate grid below. Label each point with the day number.

