



BAZINGA!

#1

A fishbowl shaped like a sphere is filled with water. The fishbowl has a diameter of 16 inches. Which measurement is closest to the volume of water in the fishbowl in cubic inches?

- A** 2,144.66 in.³
- B** 17,157.28 in.³
- C** 5,461.67 in.³
- D** 6,433.98 in.³

#2

Jerry has a new job and earns a salary of \$45,000. Victoria has a new job and earns a salary of \$54,000. Jerry will receive a salary increase of \$2,500 per year, and Victoria will receive a salary increase of \$1,500 per year.

Which equation can be used to find x , the number of years it will take Jerry to earn the same salary as Victoria?

F $45,000x + 2,500x = 54,000x + 1,500x$

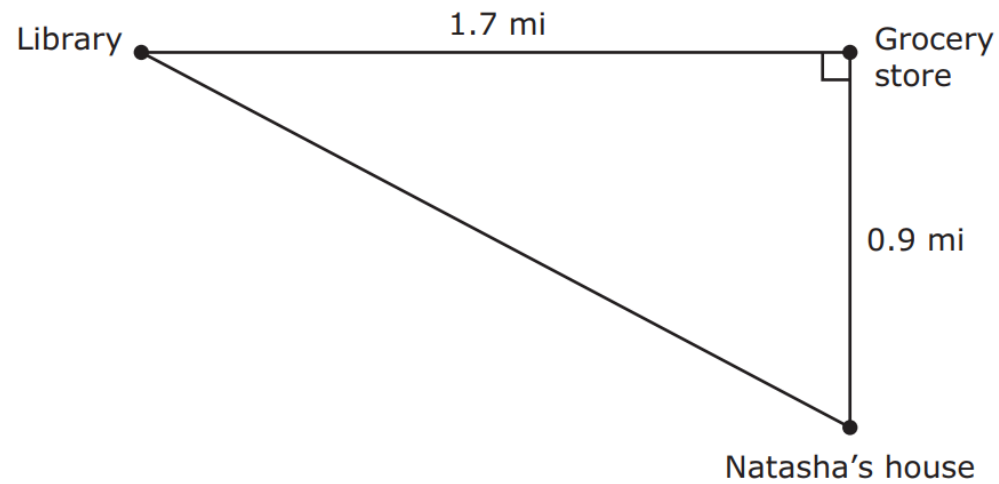
G $45,000x + 2,500 = 54,000x + 1,500$

H $45,000 + 2,500x = 54,000 + 1,500x$

J $45,000x + 2,500x = 54,000x + 1,500$

#3

Natasha walked from the library to the grocery store and then to her house. The diagram shows the top view of the locations of these three places and their distances from each other.



Which measurement is closest to the shortest distance in miles from Natasha's house to the library?

- A** 2.6 mi
- B** 1.9 mi
- C** 1.4 mi
- D** 2.3 mi

#4

In a museum there is a sculpture in the shape of a cylinder. The cylinder has a diameter of 12 feet and a height of h feet. Which equation can be used to find V , the volume of the cylinder in cubic feet?

A $V = \pi(6)^2h$

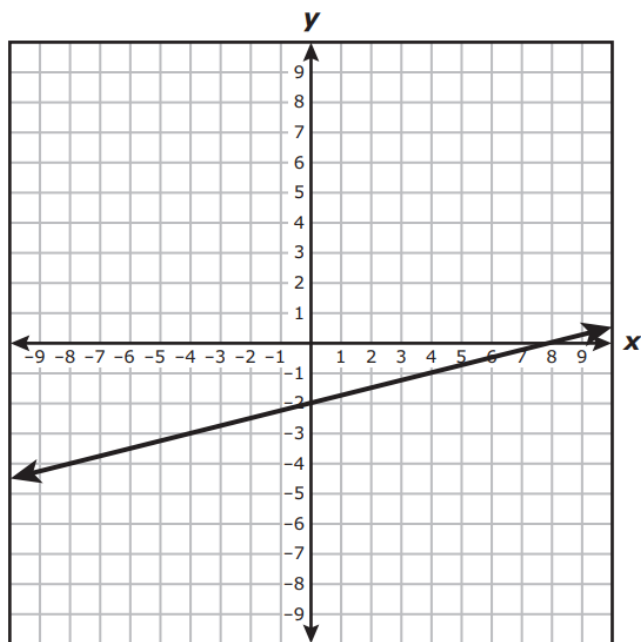
B $V = \pi(6h)^2$

C $V = \pi(12)^2h$

D $V = \pi(12h)^2$

#5

Which function is best represented by this graph?



A $y = \frac{1}{4}x + 8$

B $y = \frac{1}{4}x - 2$

C $y = 4x - 2$

D $y = 4x + 8$

#6

Rudolfo has 15 toys in his toy box, and he adds 2 new toys every month. Based on this information, which representation best shows this relationship between the number of toys Rudolfo has in his toy box, y , and the number of months that have passed, x ?

Rudolfo's Toys

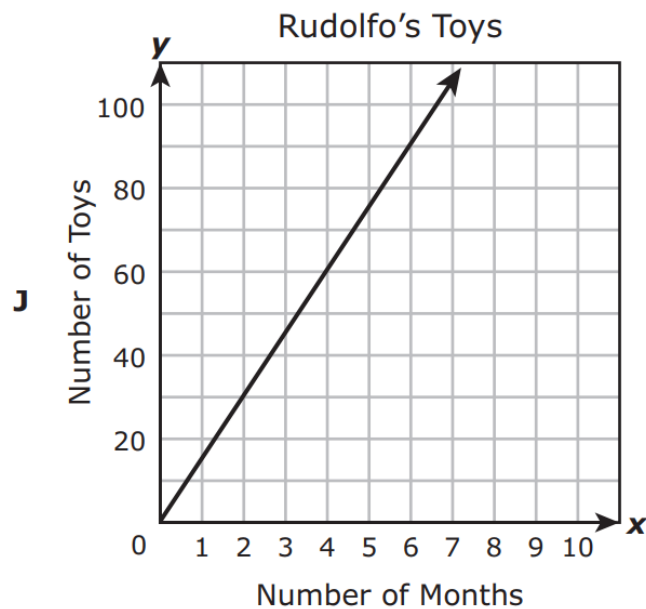
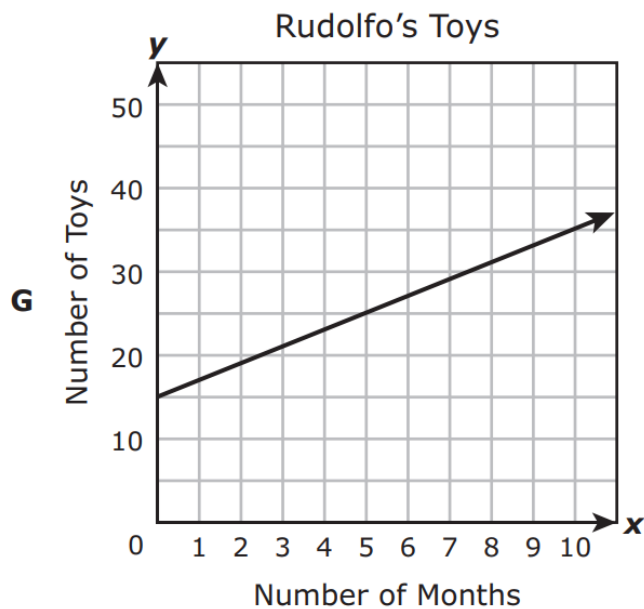
F

x	y
4	8
6	12
11	22
13	26

Rudolfo's Toys

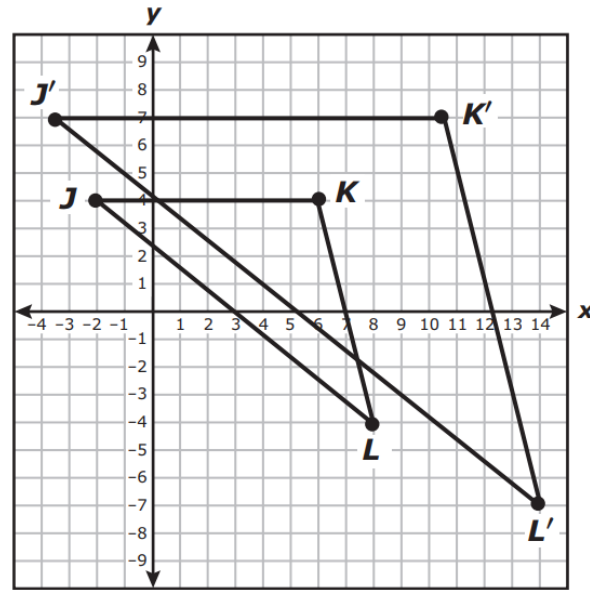
H

x	y
1	17
4	68
7	119
11	187



#7

Triangle JKL is dilated with the origin as the center of dilation to create triangle $J'K'L'$.

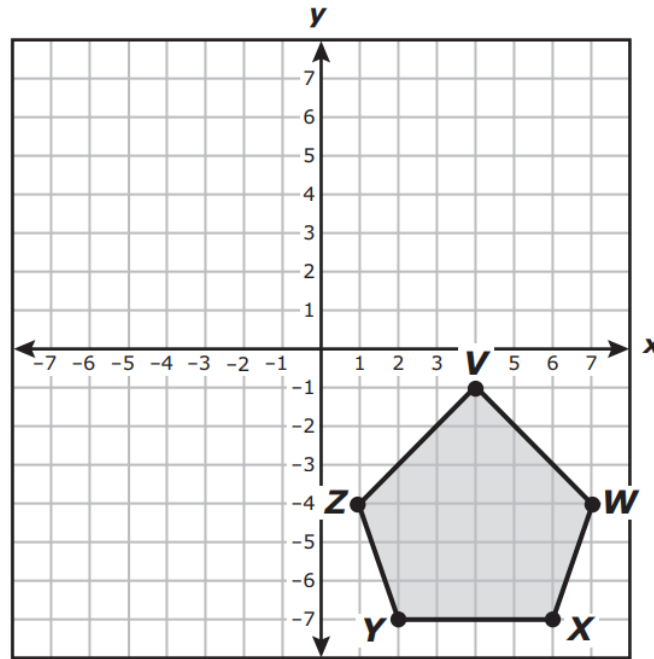


Which rule best represents the dilation that has been applied to triangle JKL to create triangle $J'K'L'$?

- A** $(x, y) \rightarrow (x + 6, y - 3)$
- B** $(x, y) \rightarrow (x + 4.5, y + 3)$
- C** $(x, y) \rightarrow (\frac{1}{2}x, \frac{1}{2}y)$
- D** $(x, y) \rightarrow (\frac{7}{4}x, \frac{7}{4}y)$

#8

Pentagon $VWXYZ$ is shown on the coordinate grid. A student reflected pentagon $VWXYZ$ across the x -axis to create pentagon $V'W'X'Y'Z'$.



Which rule describes this transformation?

- A** $(x, y) \rightarrow (x, -y)$
- B** $(x, y) \rightarrow (x, y + 8)$
- C** $(x, y) \rightarrow (-y, x)$
- D** $(x, y) \rightarrow (-x, y)$

#9

Which list shows these numbers in order from least to greatest?

$$\frac{37}{6}, \quad -5.\overline{17}, \quad \sqrt{33}, \quad -\frac{26}{5}$$

F $-\frac{26}{5}, \quad -5.\overline{17}, \quad \frac{37}{6}, \quad \sqrt{33}$

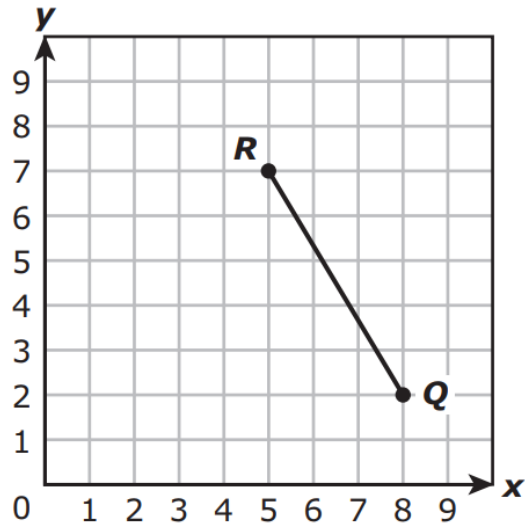
G $-5.\overline{17}, \quad -\frac{26}{5}, \quad \frac{37}{6}, \quad \sqrt{33}$

H $-\frac{26}{5}, \quad -5.\overline{17}, \quad \sqrt{33}, \quad \frac{37}{6}$

J $-5.\overline{17}, \quad -\frac{26}{5}, \quad \sqrt{33}, \quad \frac{37}{6}$

#10

The coordinates of the endpoints of \overline{QR} are $Q(8, 2)$ and $R(5, 7)$.



Which measurement is closest to the length of \overline{QR} in units?

- A** 5.8 units
- B** 5 units
- C** 4 units
- D** 3.9 units

#11

A square with a perimeter of 20 units is graphed on a coordinate grid. The square is dilated by a scale factor of 0.4 with the origin as the center of dilation.

If (x, y) represents the location of any point on the original square, which ordered pair represents the coordinates of the corresponding point on the resulting square?

- A** $(20x, 20y)$
- B** $(0.4x, 0.4y)$
- C** $(x + 20, y + 20)$
- D** $(x + 0.4, y + 0.4)$

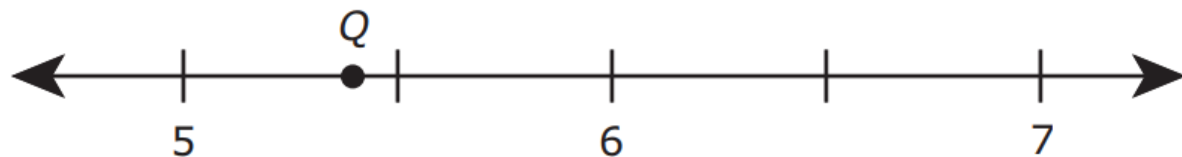
#12

Which situation could NOT represent a proportional relationship?

- F** The number of gallons of water in x barrels with 42 gallons of water in each barrel
- G** The amount an employee who makes \$8.50 per hour earns in h hours
- H** The weight in x weeks of a puppy that gains 2 pounds per week if its starting weight is 8 pounds
- J** The cost of purchasing p pounds of bananas for \$0.55 per pound

#13

Point Q is shown on the number line.



Which value is best represented by point Q?

- A** $\sqrt{5.4}$
- B** $\sqrt{29.5}$
- C** $\sqrt{35.5}$
- D** $\sqrt{5.9}$

#14

$$4x - 21 = -7x + 12$$

#15

The diameter of Jupiter is about 140,000 kilometers. What is the diameter of Jupiter in scientific notation?

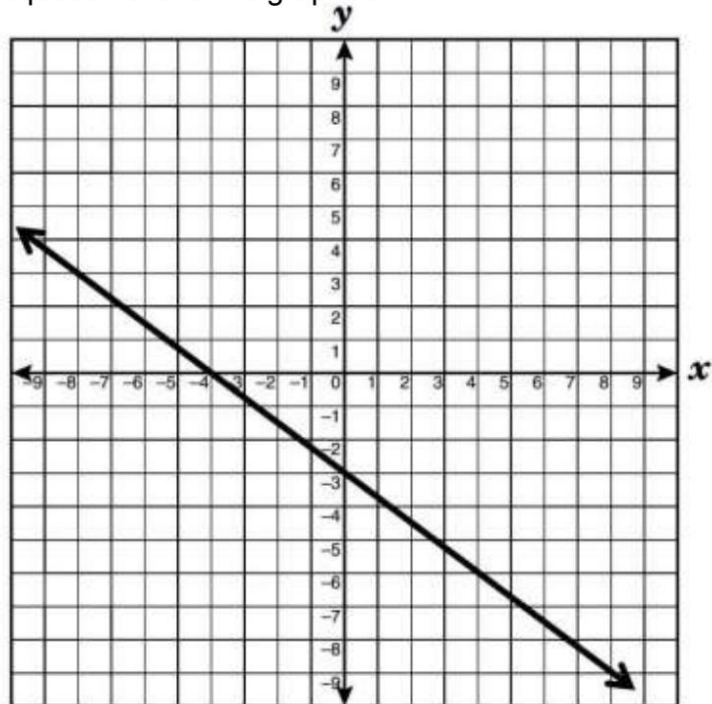
- A** 14.0×10^4 km
- B** 1.4×10^5 km
- C** 140.0×10^3 km
- D** 0.14×10^6 km

#16

$$-3x + 10 = 5x - 8$$

#17

11. What are the slope and y-intercept of the equation of the line graphed?



A $m = -\frac{3}{4}$ and $b = -3$

B $m = -\frac{4}{3}$ and $b = -3$

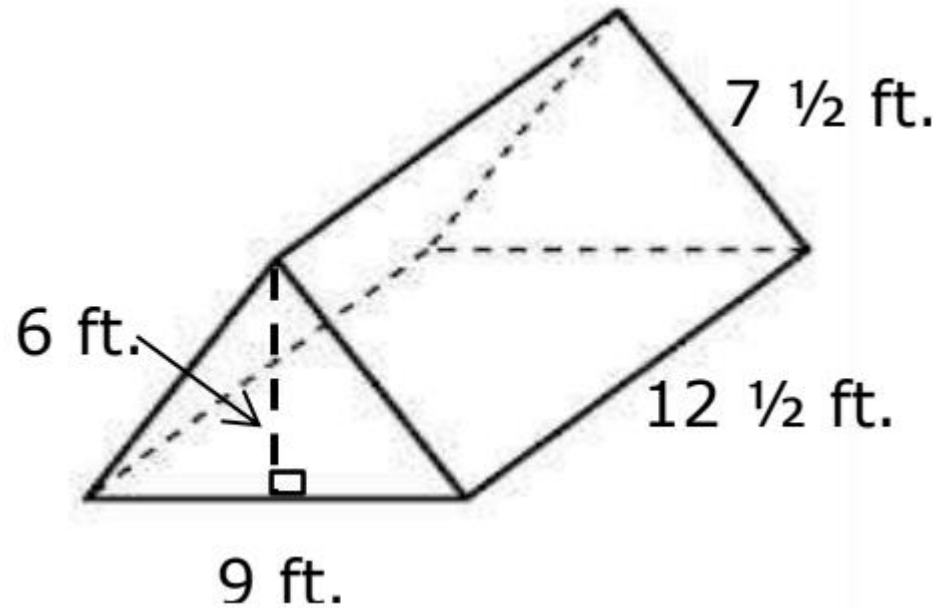
C $m = -\frac{3}{4}$ and $b = -4$

D $m = -\frac{4}{3}$ and $b = -4$

#18

Jacob has a tent in the shape of a triangular prism.

What is the total surface area in square feet of the tent?

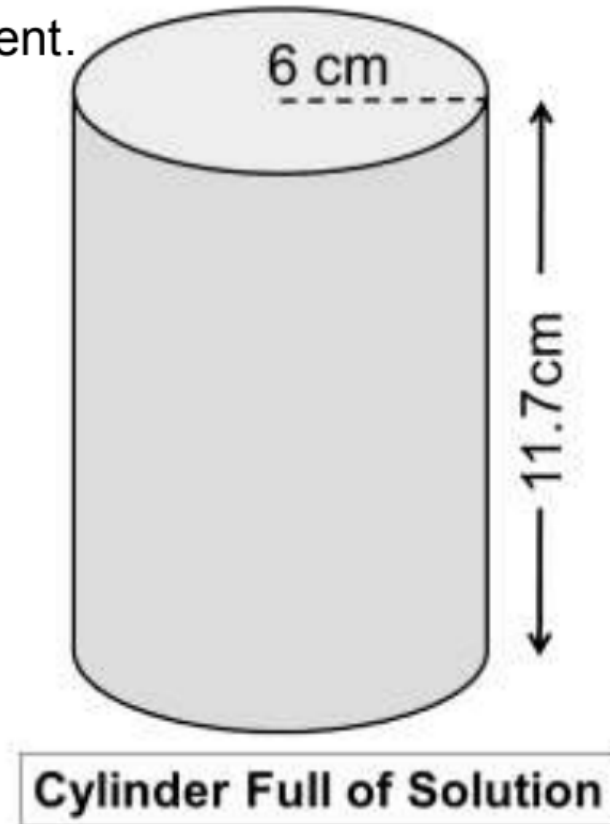


#19

Jonathan has a cylinder full of a solution for a science experiment.

What is the approximate volume in cubic centimeters of the container?

- F** 5293.96 cm^3
- G** 441.08 cm^3
- H** 1323.24 cm^3
- J** 70.2 cm^3



#20

A medium-sized paper cone has a diameter of 8 centimeters and a height of 10 centimeters.
What is the approximate volume of the cone?

- A** 669.87 cm³
- B** 167.47 cm³
- C** 502.4 cm³
- D** 2,009.6 cm³