

Trapezoid $WKRP$ was translated 4 units to the left and 5 units up on a coordinate grid to create trapezoid $W'K'R'P'$. Which rule describes this transformation?

- A** $(x, y) \rightarrow (x - 4, y + 5)$
- B** $(x, y) \rightarrow (x + 4, y - 5)$
- C** $(x, y) \rightarrow (x + 4, y + 5)$
- D** $(x, y) \rightarrow (x - 4, y - 5)$

A customer will borrow \$12,000 to buy a car. Which loan option would allow the customer to pay the least amount of interest?

- F** A 4-year loan with a 5.2% annual simple interest rate
- G** A 5-year loan with a 4.2% annual simple interest rate
- H** A 6-year loan with a 4.7% annual simple interest rate
- J** A 3-year loan with an 8.4% annual simple interest rate

Which table represents a non-proportional relationship between x and y ?

A

x	y
1	-4
3	-12
7	-28
15	-60

C

x	y
1	7.5
4	30
7	52.5
10	75

B

x	y
-17	93.5
-5	27.5
2	-11
10	-55

D

x	y
-5	11
-1	-1
1	-7
8	-28

A college has two classrooms of students.

- Classroom A had 70 students.
- Classroom B had 30 students.
- Classroom A sent groups of 4 students to Classroom B until both classrooms had the same number of students.

The equation shown can be used to find the number of groups that Classroom A sent to Classroom B so each classroom had the same number of students.

$$70 - 4x = 30 + 4x$$

How many groups did Classroom A send to Classroom B?

A water tank currently contains 275 gallons of water. The amount of water in the tank will decrease at a constant rate of 15 gallons per week.

What function can be used to find t , the total number of gallons of water in the tank after w weeks?

F $t = 15w - 275$

G $t = -15w + 275$

H $t = 275w - 15$

J $t = -275w + 15$

The diameter of a cylinder is 2.5 inches, and the height is 7.5 inches.

Which equation can be used to find V , the volume of the cylinder in cubic inches?

F $V = \pi(2.5)^2(7.5)$

G $V = \pi(7.5)^2(2.5)$

H $V = \pi(1.25)^2(7.5)$

J $V = \pi(3.75)^2(2.5)$

A transformation is applied to a figure to create a new figure on a coordinate grid. Which transformation does NOT preserve congruence?

F A rotation of 270° counterclockwise

G A reflection across the y -axis

H A dilation by a scale factor of 1.5

J A translation of 50 units down

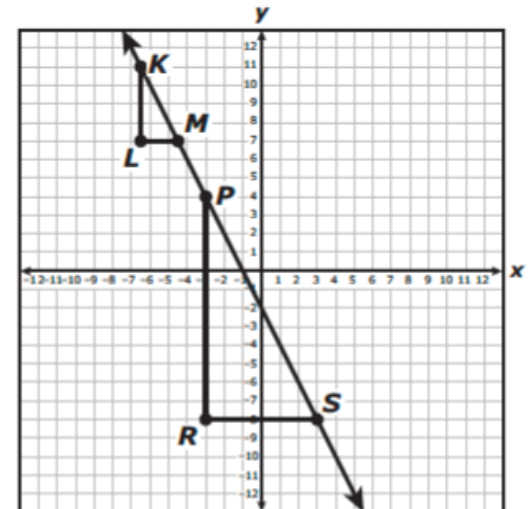
Triangle KLM and triangle PRS are similar right triangles. Which proportion can be used to show that the slope of $\overline{KM}$ is equal to the slope of $\overline{PS}$?

A $\frac{KL}{LM} = \frac{PR}{RS}$

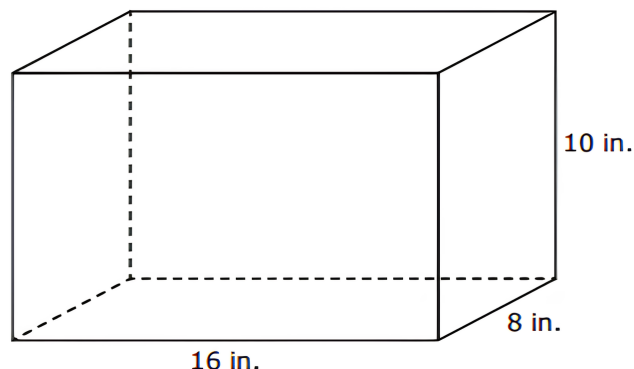
B $\frac{RS}{SP} = \frac{LM}{MK}$

C $\frac{ML}{LK} = \frac{SP}{RP}$

D $\frac{PS}{PR} = \frac{KM}{KL}$



The dimensions of a rectangular prism are shown in the diagram below.



What is the total surface area in square inches of the prism?

Ben deposits \$1,750 into each of two savings accounts.

- Account I earns 2.75% annual simple interest.
- Account II earns 2.75% interest compounded annually.

Ben does not make any additional deposits or withdrawals.

Which amount is closest to the difference between the interest Ben will earn in Account I and the interest Ben will earn in Account II at the end of two years?

- A** \$96.25
- B** \$1.32
- C** \$97.57
- D** \$193.82

The side lengths in yards of a triangle and a square are shown in the diagram.

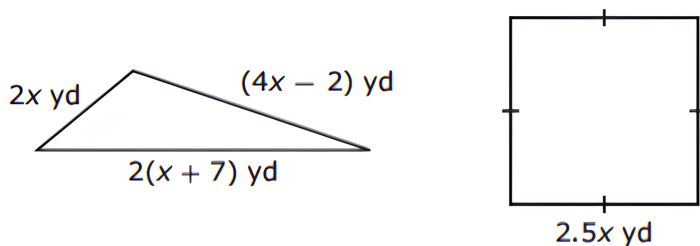
The perimeter of the triangle is equal to the perimeter of the square. What is the value of x ?

F -4

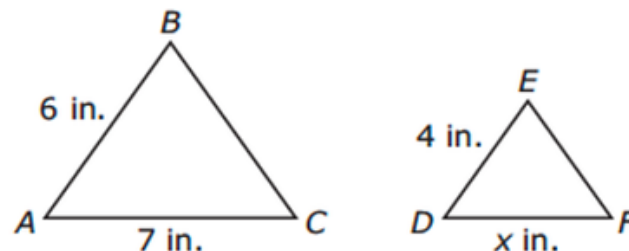
G $\frac{2}{3}$

H 6

J $\frac{5}{2}$



Triangle ABC and triangle DEF are similar.



Which proportion must be true?

F $\frac{7}{x} = \frac{4}{6}$

G $\frac{4}{6} = \frac{x}{7}$

H $\frac{6}{4} = \frac{x}{7}$

J $\frac{4}{x} = \frac{7}{6}$

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

$$\sqrt{38}, -6.35, 63\%, -\frac{19}{3}$$

A $-6.35, -\frac{19}{3}, 63\%, \sqrt{38}$

B $63\%, \sqrt{38}, -\frac{19}{3}, -6.35$

C $-6.35, -\frac{19}{3}, \sqrt{38}, 63\%$

D $-\frac{19}{3}, -6.35, 63\%, \sqrt{38}$

A student solved the equation $x^2 = 132$ to find the length of the diagonal of a square in centimeters. Which measurement is closest to x , the length of the diagonal of this square, in centimeters?

A 66 cm

B 44 cm

C 33 cm

D 11 cm

The diagram shows a right angle and the lengths of two of its sides in inches?

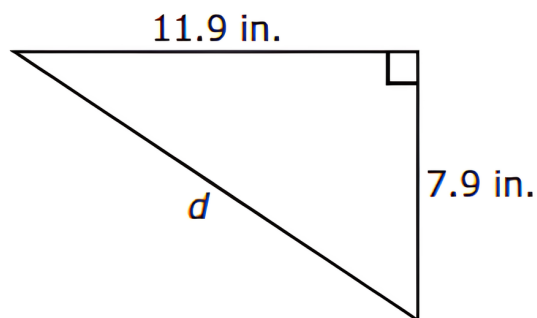
Which measurement is closest to the value of d in inches?

F 6.3 in.

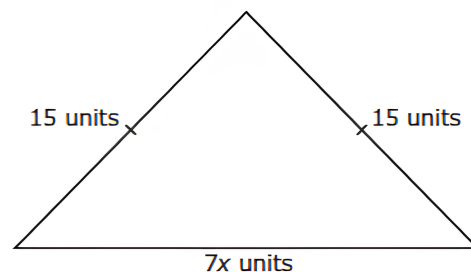
G 4.0 in.

H 14.3 in.

J 19.8 in.



The perimeter of the triangle shown is $17x$ units. The dimensions of the triangle are given in units.



Which equation can be used to find the value of x ?

A $17x = 30 + 7x$

B $17x = 15 + 22x$

C $17x = 7 + 30x$

D $17x = 22 + 15x$

A cylinder has a height of 5 feet and a diameter of 2 feet.

Which measurement is closest to the volume of the cylinder in cubic feet?

F 62.8 ft^3

G 15.7 ft^3

H 78.5 ft^3

J 157.1 ft^3

A list of numbers ordered from least value to greatest value is shown. One number is missing.

$$\frac{18}{5}, 3.71, \underline{\hspace{1cm}}, \sqrt{17}$$

Which number could be the missing number?

A 4.5

B 3.8%

C $\frac{57}{15}$

D $(3.9)^2$

There are a total of 463,100 books in a library. What is the value of the exponent when this number is written in scientific notation?

Rhonda's job is to drive a car for a company. Each month she is paid the same salary. She is also paid extra money for the number of miles she drives the car each month.

- In July Rhonda drove 640 miles and was paid a total of \$3,502.00.
- In August Rhonda drove 820 miles and was paid a total of \$3,601.00.

Which function can be used to find y , the total amount she is paid in a month if she drives x miles?

A $y = 5.47x$

B $y = 4.39x$

C $y = 0.55x + 3,150$

D $y = 3,150x + 0.55$

Fulgurites are pieces of glass in the shape of a cylinder produced when lightning strikes sand. A student found a fulgurite with a height of 21 inches and a diameter of 6 inches.

Which equation can be used to find V , the volume of the fulgurite in cubic inches?

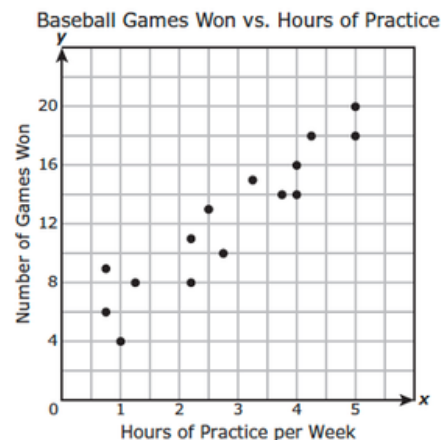
A $V = \pi(6)^2(21)$

B $V = \pi(3)^2(21)$

C $V = \pi(6)(21)$

D $V = \pi(3)(21)$

The scatterplot shows the relationship between the number of games a baseball team won in a season and the number of hours the team practiced each week during the season. Based on the scatterplot, which is the best prediction of the number of games a baseball team won if the team practiced 3 hours each week during the season?



F 10 games

G 20 games

H 13 games

J 15 games

The list shows the weight in pounds of 6 puppies at birth.

3, 1.6, 2.8, 2.5, 1.7, 2.8

What is the mean absolute deviation of these numbers?

F 0.5

G 2.4

H 1.9

J 14.4

Which set of ordered pairs represents y as a function of x ?

F $\{(4, \sqrt{17}), (2, \sqrt{6}), (1, \sqrt{3}), (1, \sqrt{10})\}$

G $\{(-7, 2.9), (-15, 5.9), (-15, 8.9), (-7, 11.9)\}$

H $\{(11.1, 7), (5.1, 4), (12.1, 5), (6.1, 7)\}$

J $\{(\sqrt{1}, -3), (\sqrt{2}, -4), (\sqrt{1}, -5), (\sqrt{6}, -7)\}$

Larry put \$1,287 into a savings account
8 years ago.

- The account earned 4% simple annual interest.
- He made no additional deposits or withdrawals.

Based on this information, what is the
balance in dollars and cents in Larry's
savings account at the end of these 8
years?