

1

An equation is shown below.

$$12 - 9 + c = 12$$

What value of c makes the equation true?

- A 0
- B 3
- C 9
- D 12

2

Kate has a coin collection. She keeps 7 of the coins in a box, which is only 5% of her entire collection. What is the total number of coins in Kate's coin collection?

- A 12
- B 14
- C 120
- D 140

3

What is the greatest common factor of 36 and 90?

- A 6
- B 18
- C 36
- D 180

GO ON

4

The relationship between Robert's age, r , and Julia's age, j , can be represented by the equation shown below.

$$r = j + 3$$

Which table of values represents the relationship between Robert's age and Julia's age?

POSSIBLE AGES

A

Robert's Age, r (years)	Julia's Age, j (years)
9	12
15	18
21	24

POSSIBLE AGES

C

Robert's Age, r (years)	Julia's Age, j (years)
9	6
15	12
21	18

POSSIBLE AGES

B

Robert's Age, r (years)	Julia's Age, j (years)
9	3
15	5
21	7

POSSIBLE AGES

D

Robert's Age, r (years)	Julia's Age, j (years)
9	27
15	45
21	63

GO ON

15

All the students in the sixth grade either purchased their lunch or brought their lunch from home on Monday.

- 24% of the students purchased their lunch.
- 190 students brought their lunch from home.

How many students are in the sixth grade?

- A** 76
- B** 166
- C** 214
- D** 250

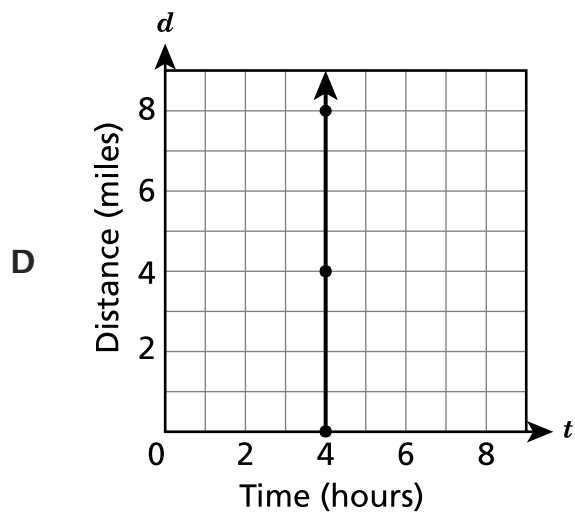
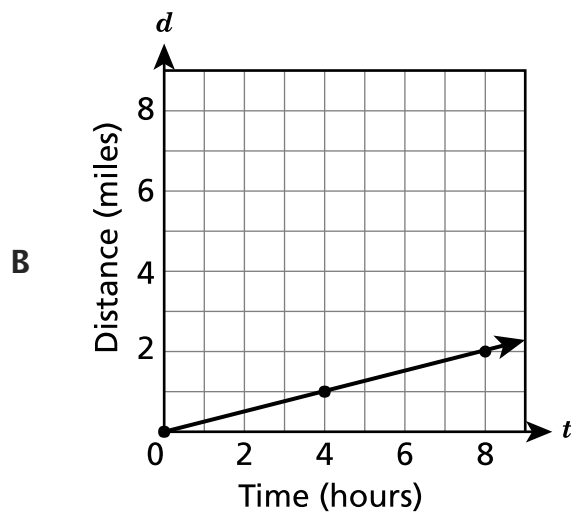
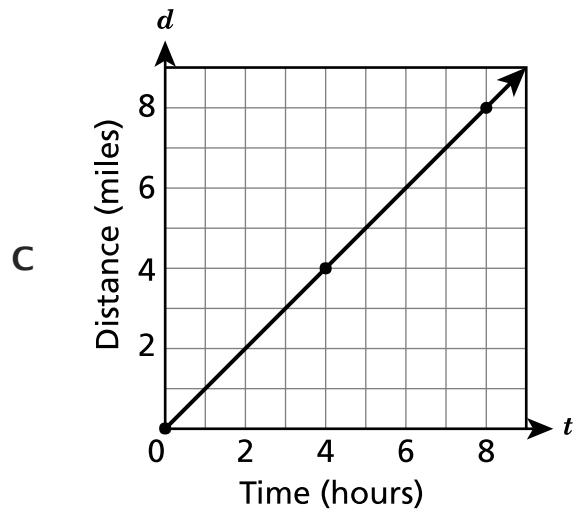
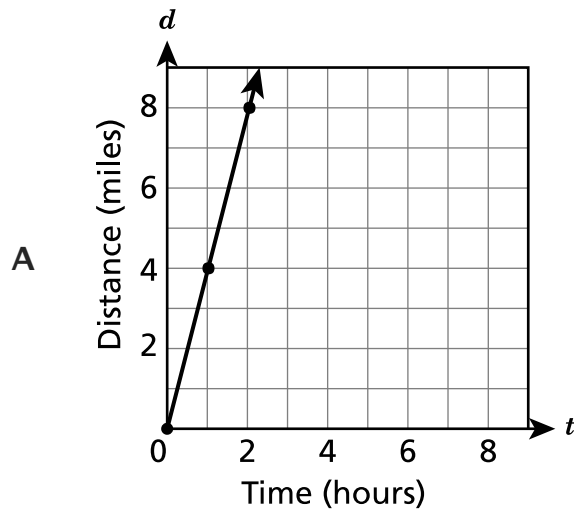
GO ON

16

Joe walks on a treadmill at a constant rate. The equation below describes the relationship between t , the time he walks in hours, and d , the distance he walks in miles.

$$d = 4t$$

Which graph represents the relationship between the amount of time Joe walks and the distance he walks?

**GO ON**

- 19** There are 230 calories in 4 ounces of a type of ice cream. How many calories are in 6 ounces of that ice cream?

- A** 232
- B** 236
- C** 345
- D** 460

GO ON

22

A shape is made of 12 right triangles of equal size. Each right triangle has a base of 4 cm and a height of 5 cm. What is the total area, in square centimeters, of the shape?

- A 10
- B 60
- C 120
- D 240

25 Pat bounces a basketball 25 times in 30 seconds. At that rate, approximately how many times will Pat bounce the ball in 150 seconds?

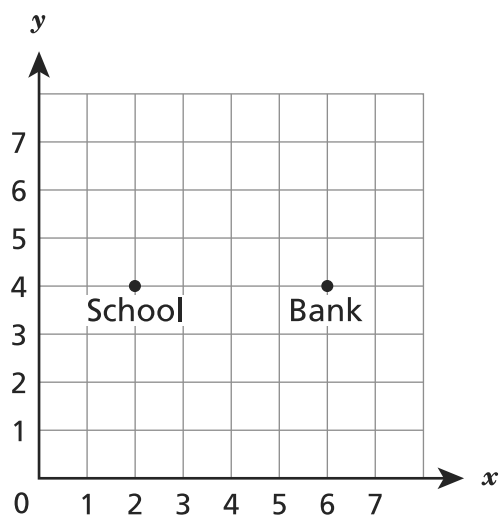
- A 120
- B 125
- C 144
- D 145

26 Which expression is equivalent to $5(4x + 3) - 2x$?

- A $18x + 15$
- B $18x + 3$
- C $7x + 8$
- D $2x + 8$

27

Mark graphed points on the coordinate plane below to represent the locations of his school and a bank.



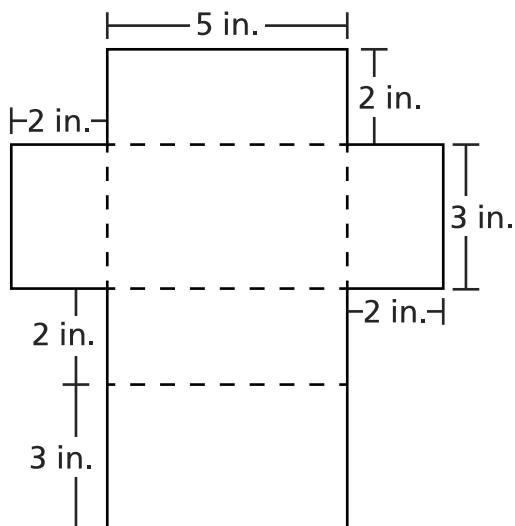
Mark wants to add the location of the library on the coordinate plane. The distance from the library to the school is the same as the distance from the bank to the school. Which ordered pair could be the coordinates of the library?

- A (2, 4)
- B (2, 8)
- C (4, 4)
- D (6, 8)

GO ON

28

A student draws the net below to show the dimensions of a container that is shaped like a right rectangular prism.



What is the surface area, in square inches, of the container?

- A 19
- B 30
- C 38
- D 62

29

Which two expressions are equivalent?

- A $x + x + x$ and x^3
- B $14x + 10 - 2x$ and $16x + 10$
- C $12x + 16x$ and $4(3x + 4x)$
- D $12x^2 + 5x + 10$ and $17x^2 + 10$

GO ON

A machine fills boxes at a constant rate. At the end of 35 minutes, it has filled 5 boxes. Which table represents the relationship between the number of minutes the machine fills boxes and the number of boxes it has filled?

FILLING BOXES**A**

Time (minutes)	Boxes Filled
7	1
14	2
21	3
28	4

FILLING BOXES**C**

Time (minutes)	Boxes Filled
1	7
2	14
3	21
4	28

FILLING BOXES**B**

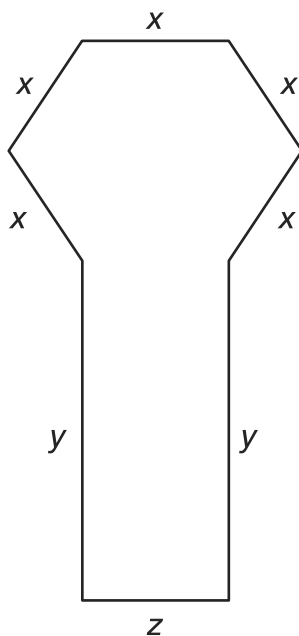
Time (minutes)	Boxes Filled
5	1
10	2
15	3
20	4

FILLING BOXES**D**

Time (minutes)	Boxes Filled
1	5
2	10
3	15
4	20

31

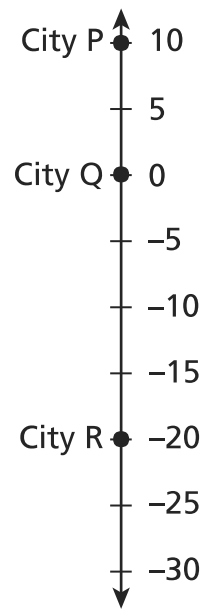
Which expression represents the perimeter of the figure below?



- A $5x + 2y$
- B $x + y + z$
- C $5x + 2y + z$
- D $(5 + 2 + 1)(x + y + z)$

STOP

The elevations, in feet, of three cities are marked on the number line shown below.



The point 0 on the number line represents sea level. Which statement must be true?

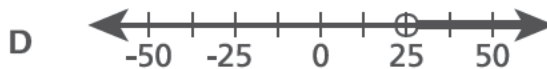
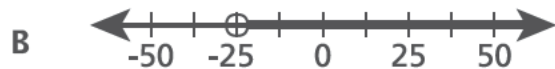
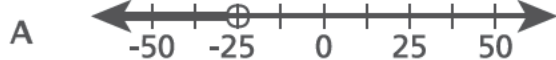
- A City P and City Q are above sea level.
- B City Q and City R are below sea level.
- C City P is above sea level and City Q is below sea level.
- D City P is above sea level and City R is below sea level.

A basketball player attempts 15 baskets in a game. He makes 9 of the attempted baskets. Which ratio describes the number of baskets the player made to the number of baskets the player attempted?

- A $\frac{3}{5}$
- B $\frac{5}{3}$
- C $\frac{2}{5}$
- D $\frac{5}{2}$

34

Which number line shows a graph of the inequality $x > -25$?



35

The coordinates of the points below represent the vertices of a rectangle.

P : (2, 2)

Q : (6, 2)

R : (6, 5)

S : (2, 5)

What is the perimeter, in units, of rectangle PQRS?

A 8

B 12

C 14

D 16

GO ON

- 36** Carol has $1\frac{5}{8}$ cups of yogurt to make smoothies. Each smoothie uses $\frac{1}{3}$ cup of yogurt.

What is the maximum number of smoothies that Carol can make with the yogurt?

- A** 1
- B** 4
- C** 5
- D** 7

- 37** Which expression is equivalent to $60 - 3y - 9$?

- A** $3(17 - y)$
- B** $3(20 - y) - 3$
- C** $17(3 - y)$
- D** $20(3 - 3y) - 9$

- 38** A grocery store sells a bag of 5 lemons for \$2.00. What is the unit cost of each lemon in the bag?

- A** \$2.50
- B** \$0.60
- C** \$0.40
- D** \$0.10

GO ON

39

An art teacher has a total of $\frac{7}{8}$ pound of clay. The teacher puts $\frac{1}{16}$ pound of clay at each work station. The teacher sets up an equal number of work stations in each of 2 classrooms. How many work stations does the teacher set up in each of the classrooms?

Show your work.

Answer _____ work stations

GO ON

40

Tom wants to order tickets online so that he and three of his friends can go together to a water park. The cost of the tickets is \$16.00 per person. There is also a \$2.50 one-time service fee for ordering tickets online. Write an expression in terms of n that represents the cost for ordering n tickets online.

Expression _____

Use your expression to find the total cost for ordering 4 tickets online.

Show your work.

Answer Total cost \$ _____

GO ON

41

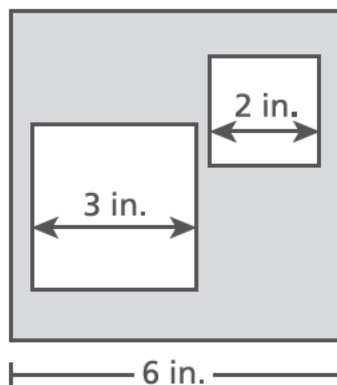
A factory adds three red drops and two blue drops of coloring to white paint to make each pint of purple paint. The factory will make 50 gallons of this purple paint. How many drops of red and blue coloring will the factory need in the 50-gallon batch of purple paint?

Show your work.

Answer _____ red drops; _____ blue drops

GO ON

The diagram below shows a large square with two smaller squares within it.



Write an expression, involving exponents, to represent the shaded area, in square inches, of the diagram. Then use that expression to calculate the shaded area, in square inches, of the diagram.

Show your work.

Answer _____ square inches

GO ON

43

Point W is located at $(-2, 3)$ on a coordinate plane. Point W is reflected over the x -axis to create point W' . Point W' is then reflected over the y -axis to create point W'' . What ordered pair describes the location of point W'' ?

Answer Point W'' (_____ , _____)

Explain how you determined your answer.

GO ON

44

Jaden made a pot of chili with 48 ounces of ground beef and 2 tablespoons of chili powder. He made another pot of chili with the same amount of ground beef, but he used 3 times as much chili powder. How many pounds of ground beef per tablespoon of chili powder did he use in the second pot of chili?

Show your work.

Answer _____ pound(s) per tablespoon

GO ON

45

Cube-shaped blocks are packed into a cube-shaped storage container.

- The edge length of the storage container is $2\frac{1}{2}$ feet.
- The edge length of each block is $\frac{1}{5}$ the edge length of the storage container.

What is the volume, in cubic feet, of one cube-shaped block?

Show your work.

Answer _____ cubic feet

GO ON

46

A rectangular exercise mat has a perimeter of 36 feet. The length of the mat is twice the width. Write and solve an equation to determine the length, in feet, of the mat. Then find the area, in square feet, of the mat.

Show your work.

Answer length _____ feet

area _____ square feet

STOP