2 Which expression represents 5 more than the product of 2 and y?

A $2 + y + 5$

B $2y + 5$

C $5 + \frac{2}{y}$

D $5 + \frac{y}{2}$

GO ON

3 Which value of b makes the inequality $3b > 12$ true?

A 2

B 3

C 4

D 5

4 A coordinate plane can be used to show the distance, in units, between two locations. The location of Jack's house and a store are listed below.

- Jack's house is located at $(-7, -8)$.
- The store is located at $(-7, 4)$.

What is the distance, in units, between Jack's house and the store?

A 4

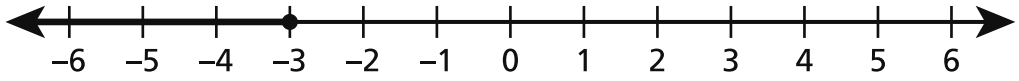
B 8

C 12

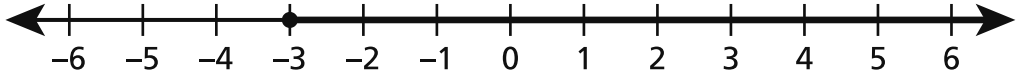
D 14

11 Which number line represents $x \geq -3$?

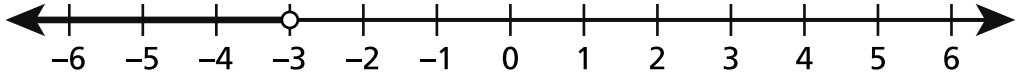
A



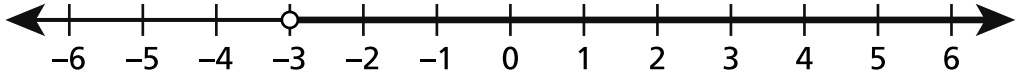
B



C



D



14 What is the value of the expression $8^2 \div 4 \times 2^3$?

A 16

B 24

C 96

D 128

15 Ben purchases $1\frac{1}{4}$ pounds of nuts and puts them into bags. Each bag holds $\frac{1}{8}$ pound of nuts. He uses all the nuts to fill each bag completely. How many bags does Ben fill with nuts?

A $\frac{5}{32}$

B $1\frac{1}{8}$

C 2

D 10

18 Which expression represents the opposite of the number $-2\frac{1}{2}$?

A $-\left(2\frac{1}{2}\right)$

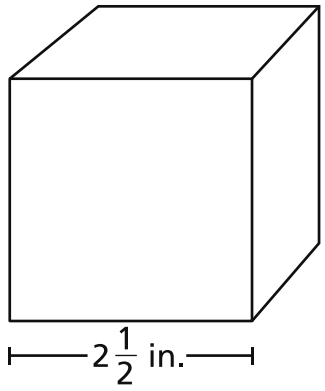
B $-\left(-2\frac{1}{2}\right)$

C $-2\left(\frac{1}{2}\right)$

D $2\left(-\frac{1}{2}\right)$

GO ON

20 A diagram of a cube is shown below.



What is the volume, in cubic inches, of the cube?

A $1\frac{7}{8}$

B $7\frac{1}{2}$

C $15\frac{5}{8}$

D $20\frac{5}{6}$

22 Tammy and Jacob collect stamps. Tammy has s stamps. Jacob has 4 fewer than 3 times the number of stamps Tammy has. Which expression can be used to represent the number of stamps Jacob has?

A $3 - 4s$

B $3s - 4$

C $4 - 3s$

D $4s - 3$

23 A container holds 6 gallons of liquid. How many pints of liquid does the container hold?

A 6

B 8

C 24

D 48

GO ON

26 What ordered pair represents the location of a point that is the reflection of the point $(-4, 6)$ over the x-axis?

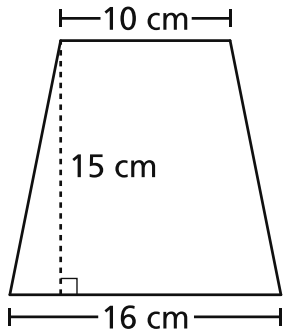
A $(4, 6)$

B $(-4, -6)$

C $(6, -4)$

D $(-6, 4)$

28 An isosceles trapezoid is shown below.



What is the area, in square centimeters, of the isosceles trapezoid?

A 120

B 150

C 195

D 240

29 An inequality is shown below.

$$-\frac{9}{20} > -\frac{21}{24}$$

Which statement about the locations of the numbers on a number line is true?

A $-\frac{9}{20}$ is to the left of $-\frac{21}{24}$ and to the right of 0 on a number line.

B $-\frac{9}{20}$ is to the right of $-\frac{21}{24}$ and to the left of 0 on a number line.

C $-\frac{9}{20}$ is to the left of $-\frac{21}{24}$ and to the left of 0 on a number line.

D $-\frac{9}{20}$ is to the right of $-\frac{21}{24}$ and to the right of 0 on a number line.

31 There are 104 calories in an 8-ounce serving of soda. How many calories are in 1 ounce of soda?

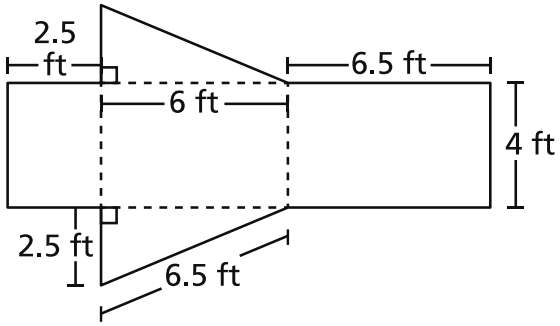
A 13

B 26

C 52

D 96

32 Jose builds a skateboard ramp in the shape of a right triangular prism. The net below shows the dimensions of each part of the ramp.



What is the surface area, in square feet, of the ramp?

A 90

B 75

C 51

D 44

GO ON

33 The number 4 is 16% of what number?

A 12

B 20

C 25

D 64

34 A machine produces chocolates at a constant rate. In 42 minutes, the machine produces 7 pounds of chocolates. How long, in minutes, will it take the machine to produce 9 pounds of chocolates?

A 6

B 15

C 54

D 63

35 The dimensions of a cereal box in the shape of a right rectangular prism are shown below.

$8\frac{1}{10}$ inches by $4\frac{4}{5}$ inches by $12\frac{1}{2}$ inches

What is the volume, in cubic inches, of the cereal box?

A 24

B $25\frac{2}{5}$

C $384\frac{1}{25}$

D 486

36 A tutoring company charges $\$25.00$ per hour to tutor a student. How many hours of tutoring would cost $\$62.50$?

A $2\frac{1}{2}$

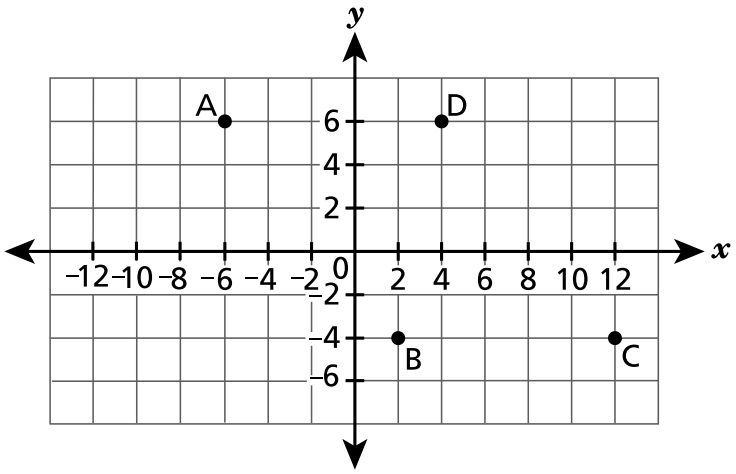
B $3\frac{1}{2}$

C $37\frac{1}{2}$

D $87\frac{1}{2}$

37 **This question is worth 1 credit.**

The four vertices of a parallelogram are plotted on the coordinate plane shown below.



What is the distance, in units, between vertices A and D ?

Answer _____ units

38 **This question is worth 1 credit.**

What value of n makes the equation $\frac{n}{8} = 17$ true?

Answer _____

GO ON

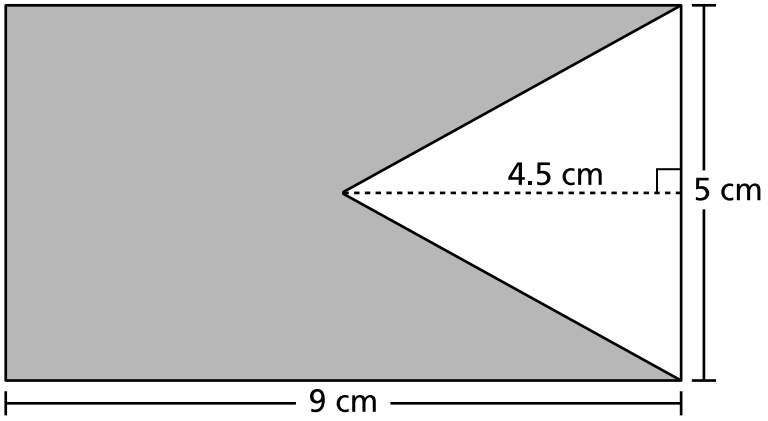
39 **This question is worth 1 credit.**

An artist uses a ratio of 6 gallons of orange paint to 8 gallons of blue paint. If the artist uses 1 gallon of blue paint, how many gallons of orange paint will they use?

Answer _____ gallon(s)

40 **This question is worth 2 credits.**

A diagram of a rectangular flag, with a shaded section, is shown below.



What is the area, in square centimeters, of the shaded section of the flag?

Show your work.

Answer _____ square centimeters

GO ON

41 **This question is worth 2 credits.**

A student claims that the expression $6 + 8x$ is equivalent to the expression $3(3 + 5x)$.
What is incorrect about the student's claim? Be sure to include an equivalent expression to $3(3 + 5x)$ in your response.

Explain your answer.

42 **This question is worth 2 credits.**

Mike needs a ticket every time he rides the bus. Given the equation $c = 2.75t$, what is the relationship between t, the number of tickets that Mike buys, and c, the total cost? Be sure to identify which variable is independent and which variable is dependent in your answer.

Explain your answer.

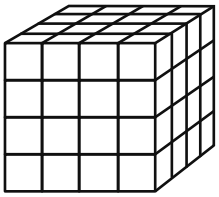
43 **This question is worth 2 credits.**

A student claims that 4 is the greatest common factor of 24 and 40, because the two numbers are both multiples of 4. Is the student's claim correct?

Explain how you determined your answer.

44 **This question is worth 2 credits.**

A prism made of unit cubes is shown below.

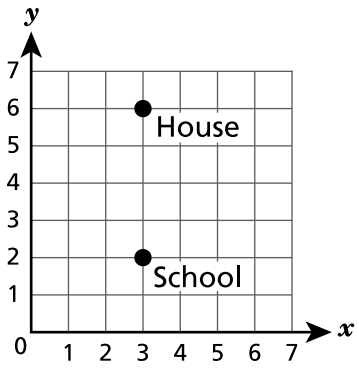


What perfect cube is represented by the volume of the prism? Be sure to include what you know about volume and exponents in your answer.

Explain your answer.

45 **This question is worth 2 credits.**

The location of Jake's school and house are represented on the coordinate plane shown below.



What is the distance, in units, from Jake's school to his house? Be sure to include the coordinates for both locations and how those coordinates can be used to determine your answer.

Explain how you determined your answer.

46 **This question is worth 3 credits.**

Rex and Nero are saving money for new bikes. They both start with $0.00 and save at a constant rate for 16 months. The tables below show Rex's and Nero's total savings, in dollars, at the end of different numbers of months.

REX'S SAVINGS

Number of Months	2	4	6	8
Savings (dollars)	18	36	54	72

NERO'S SAVINGS

Number of Months	3	6	9	12
Savings (dollars)	36	72	108	144

At the end of 16 months, what is the difference between the amount of money Rex saved and the amount of money Nero saved?

Show your work.

Answer $ _____

STOP