

31

GUEST

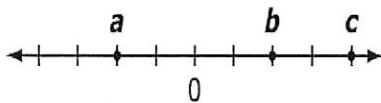
Marcus has a pool that can hold a maximum of 4500 gallons of water. The pool already contains 1500 gallons of water. Marcus begins to add more water at a rate of 30 gallons per minute.

Enter an inequality that shows the number of minutes, m , Marcus can continue to add water to the pool without exceeding the maximum number of gallons.

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GUEST

Values for variables a , b , and c are graphed on the number line shown.



Use the graph to evaluate the expressions in the table. Select one column for each row in the table to indicate whether the expression is less than 0, equal to 0, or greater than 0.

Expression	< 0	= 0	> 0
$a - b$			
$a + b$			
$b - c$			
$c - a$			
$a + c$			

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GUEST

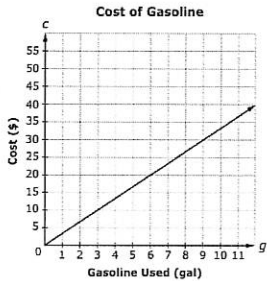
Johnny uses a wheelbarrow to move planting soil to a delivery truck. The volume of planting soil that fits in the wheelbarrow measures 2 feet by 3 feet by 1.5 feet. The delivery truck measures 11 feet by 8 feet and is 6 feet tall. Johnny puts planting soil in the delivery truck until the truck is 70% full.

What is the minimum number of times Johnny needs to use the wheelbarrow until the delivery truck is 70% full?

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GUEST

This graph shows a proportional relationship between the number of gallons of gasoline used (g) and the total cost of gasoline (c).



Find the constant of proportionality (r). Using the value for r , enter an equation in the form of $c = rg$ that represents the relationship between the number of gallons of gasoline used (g) and the total cost (c).

23 ☰
GUEST

Maria claims that any fraction located between $\frac{1}{5}$ and $\frac{1}{7}$ on a number line must have a denominator of 6.

Enter a fraction that shows Maria's claim is incorrect.

← → ↶ ↷ ✖

1	2	3	+	-	*	÷	
4	5	6	<	≤	=	≥	>
7	8	9	$\frac{\square}{\square}$	\square^\square	()		π
0	.	-					

24 ☰
GUEST

A company makes two sizes of boxes shaped like rectangular prisms. The large box is 16 inches tall, 10 inches wide, and 10 inches long. The drawing shows the dimensions of the small box.

Part A
 What is the maximum number of small boxes that can fit inside the large box?

Part B
 The company plans to increase the width and length of the large box by 4 inches each to create a new larger box. How many more of the small boxes will be able to fit inside this new larger box compared to the original large box?

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GUEST

Alfonso went to Famous Sam's Appliance Store and purchased a refrigerator and a stove. The sale price of the refrigerator was 40% off the original price and the sale price of the stove was 20% off the original price.

Which statement must be true to conclude that Alfonso received a 30% overall discount on the refrigerator and the stove together?

- Ⓐ The sale prices of the refrigerator and the stove were the same.
- Ⓑ The original prices of the refrigerator and the stove were the same.
- Ⓒ The sale price of the refrigerator was twice the sale price of the stove.
- Ⓓ The original price of the refrigerator was twice the original price of the stove.

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GUEST

Select **all** tables that represent a proportional relationship between x and y .

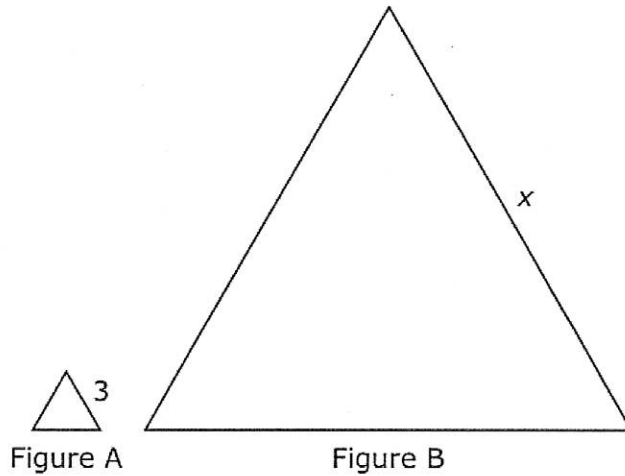
x	0	$\frac{1}{5}$	$\frac{2}{5}$	$\frac{3}{5}$
y	0	$\frac{1}{10}$	$\frac{2}{10}$	$\frac{3}{10}$

x	0	$\frac{1}{2}$	$\frac{1}{3}$	$\frac{1}{4}$
y	0	$\frac{1}{3}$	$\frac{1}{4}$	$\frac{1}{5}$

x	0	1	3	5
y	0	1	9	25

x	0	1	3	4
y	0	5	15	20

Figure A is a scale image of Figure B, as shown.



The scale that maps Figure A onto Figure B is $1:7\frac{1}{4}$.
Enter the value of x .

16

GUEST

Lisa wrote the expression $(3 + 6x) - 2(x + 1) + 5$. She simplified the expression using the following steps:

Step 1: $3(1 + x) - 2(x + 1) + 5$

Step 2: $3(x + 1) - 2(x + 1) + 5$

Step 3: $(x + 1) + 5$

Step 4: $x + 6$

Lisa says that $(3 + 6x) - 2(x + 1) + 5 = x + 6$. Lisa's statement is incorrect.

In which step did Lisa first make a mistake, and what is a correct expression for that step?

- Ⓐ Step 1; $3(1 + 3x) - 2(x + 1) + 5$
- Ⓑ Step 1; $3(1 + 2x) - 2(x + 1) + 5$
- Ⓒ Step 3; $5(x + 1) + 5$
- Ⓓ Step 3; $6(x + 1) + 5$

11

GUEST

A bag contains 16 marbles. There are 5 blue, 9 yellow, and 2 red marbles. One marble is selected at random.

Determine whether each statement correctly describes the likelihood of an event based on the given bag of marbles. Select True or False for each statement.

	True	False
It is impossible that a green marble will be selected.	<input type="checkbox"/>	<input type="checkbox"/>
It is unlikely that a yellow marble will be selected.	<input type="checkbox"/>	<input type="checkbox"/>
It is certain that a blue marble will be selected.	<input type="checkbox"/>	<input type="checkbox"/>
It is unlikely that a red marble will be selected.	<input type="checkbox"/>	<input type="checkbox"/>

12

GUEST

David goes into a candy store with \$5.00. He buys 9 peppermints for \$0.15 each, and some sour candies. Each sour candy costs \$0.25.

Enter the maximum number of sour candies David can buy.

← → ↶ ↷ ✖

1	2	3
4	5	6
7	8	9
0	.	-

7



GUEST

Enter the value of c when the expression $21.2x + c$ is equivalent to $5.3(4x - 2.6)$.

←
→
↶
↷
✕

1	2	3
4	5	6
7	8	9
0	.	-

8

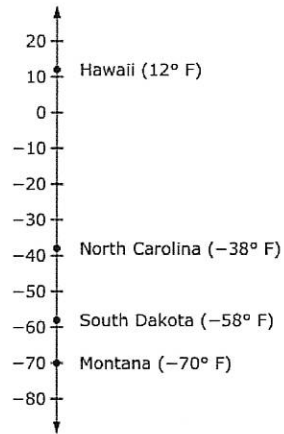


GUEST

Select **all** values equivalent to $-\frac{10}{7}$.

- $-\frac{10}{-7}$
- $-3\frac{1}{7}$
- $1\frac{3}{7}$
- $-\frac{-10}{-7}$
- $-1\frac{3}{7}$

The number line shows record low temperatures for four states.



Enter the difference, in degrees, between the record low temperatures in Hawaii and South Dakota.

4

GUEST

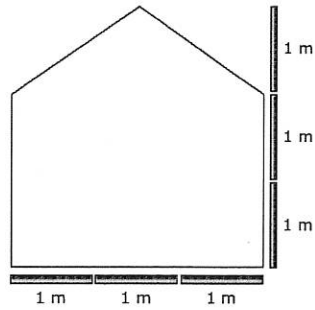
Select the expression equivalent to $(4x+3) + (-2x+4)$.

- (A) $-2x+12$
- (B) $-8x+12$
- (C) $6x+7$
- (D) $2x+7$

27



John needs to paint one wall in his school. He knows that 1 can of paint covers an area of 24 square feet. John uses a meter stick to measure the dimensions of the wall as shown.



[1 meter = approximately 39 inches]

What is the **fewest** number of cans of paint John can use to paint the wall?

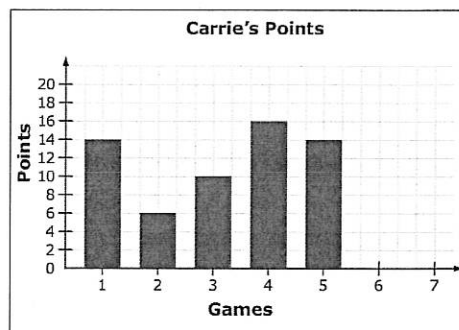
28



Carrie's basketball team has played 5 games. The number of points Carrie scored in each game is shown in the bar graph.

Determine possible point totals for games 6 and 7 so that the range of the data set increases, but the mean and median stay the same.

Select point totals above the labels 6 and 7 to complete the bar graph.



23

Aimee has \$10.00 to spend on school supplies. The following table shows the price of each item in the school store. No sales tax is charged on these items.

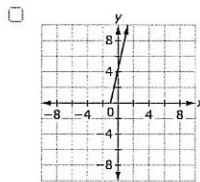
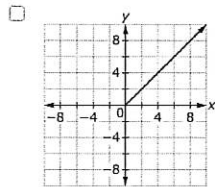
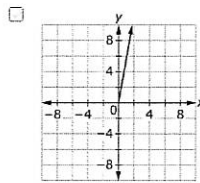
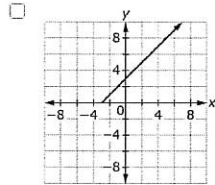
Item	Price
Eraser	\$0.89
Folder	\$1.29
Notebook	\$2.35
Pen	\$0.70

Determine if Aimee can buy the combination of items with her \$10.00. Select Yes or No for each combination of items.

	Yes	No
5 folders and 5 pens	<input type="checkbox"/>	<input type="checkbox"/>
6 pens and 6 erasers	<input type="checkbox"/>	<input type="checkbox"/>
1 pen and 4 notebooks	<input type="checkbox"/>	<input type="checkbox"/>
3 folders and 7 erasers	<input type="checkbox"/>	<input type="checkbox"/>
4 folders and 2 notebooks	<input type="checkbox"/>	<input type="checkbox"/>

24

Select **all** the graphs that show a proportional relationship between x and y .



19

The entry fee to the fair is \$4.00. Each ride requires a ticket that costs \$0.50. Heidi spent a total of \$12.00.

How many tickets did Heidi purchase?

- A 6
- B 16
- C 24
- D 32

20

Shelly incorrectly solves the equation $\frac{1}{2}(c + 6) = 7$. Her work is shown.

Part A:
Select all the steps that show an error based on the equation in the previous step.

Part B:
Use the Add Point tool to show the correct solution of the given equation.

⊖ Delete
⊕ Add Point

Part A:

	$\frac{1}{2}(c + 6) = 7$
Step 1:	$\frac{1}{2}c + 6 = 7$
Step 2:	$\frac{1}{2}c = 7 + 6$
Step 3:	$\frac{1}{2}c = 13$
Step 4:	$c = 13 \div 2$
Step 5:	$c = 6\frac{1}{2}$

Part B: Correct solution

0 2 4 6 8 10 12 14 16 18 20

15

This table shows a proportional relationship between x and y .

x	y
4	48
5	60
8	96

Find the constant of proportionality (r).

Using the value for r , enter an equation in the form of $y = rx$.

16

Dave buys a baseball for \$15 plus an 8% tax. Mel buys a football for \$20 plus an 8% tax.

Enter the difference, in dollars, of the amounts Dave and Mel pay, including tax. Round your answer to the nearest cent.

11



Which expression is equivalent to $-8(10x - 3)$?

- $-80x + 24$
- $-80x - 24$
- $-80x - 3$
- $-80x + 3$

12

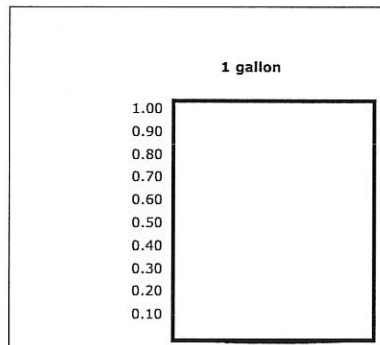


Tim makes 80 gallons of paint by mixing 48 gallons of gray paint with 32 gallons of white paint.

What part of every gallon is gray paint?

The model represents 1 gallon of mixed paint.

Select the bars to show how much of the gallon is gray paint.



7

In the given equation, a , b , and c are nonzero rational numbers.

$$a \cdot b = c$$

Given this equation, drag one number into each box to complete four true equations.

a

b

c

$-a$

$-b$

$-c$

$-a \cdot \square = c$

$\square \cdot \square = -c$

$\frac{\square}{-b} = a$

$\frac{\square}{\square} = -a$

8

George earns \$455 per week. George receives a 20% raise.

How can George calculate his new weekly pay rate?

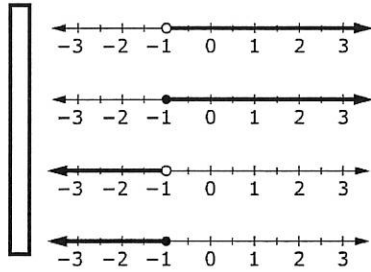
Select **all** calculations that will result in George's new weekly pay rate.

- divide \$455 by 0.20
- divide \$455 by 1.20
- multiply \$455 by 0.20
- multiply \$455 by 1.20
- solve for x : $\frac{x}{455} = \frac{120}{100}$
- solve for x : $\frac{455}{x} = \frac{20}{100}$

3

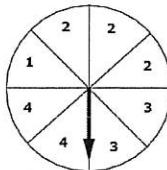


Which number line shows the solution to the inequality $-3x - 5 < -2$?



4

The spinner has 8 equal-sized sections, each labeled 1, 2, 3, or 4. The arrow on the spinner is spun.



What is the probability of the arrow stopping on a section labeled with a 2?

- $\frac{1}{4}$
- $\frac{1}{8}$
- $\frac{3}{8}$
- $\frac{3}{4}$