

Summer Week 1 Grade 8 Day 1

1. Write $-5\frac{11}{50}$ as a decimal number.

2. Write $2\frac{3}{10}$ as a decimal number.

3. Write -26.925 as a mixed number.

4. Write 0.275 as a fraction.

5. Write -0.4 as a fraction.

Summer Week 1 Grade 8 Day 2

1. Select the tables that show a proportional relationship between x and y .

x	y
3	2
6	4
12	8

x	y
1	1
2	7
3	17

2. Select the tables that show a proportional relationship between x and y .

x	y
4	3
8	6
12	9

x	y
6	3
12	6
14	7

3. Select the tables that show a proportional relationship between x and y .

x	y
1	2
2	4
5	10

x	y
5	4
10	8
15	12

4. Select the tables that show a proportional relationship between x and y .

x	y
8	1
12	3
14	4

x	y
3	5
6	10
12	20

5. Select the tables that show a proportional relationship between x and y .

x	y
4	4
7	7
9	9

x	y
4	4
6	5
10	7

Summer Week 1 Grade 8 Day 3

1. Simplify the expression:

$$(-4x + 2)(5) = \boxed{}$$

2. Simplify the expression:

$$-5(2 - 5z) = \boxed{}$$

3. Simplify the expression:

$$2(6 - 2d) = \boxed{}$$

4. Simplify the expression:

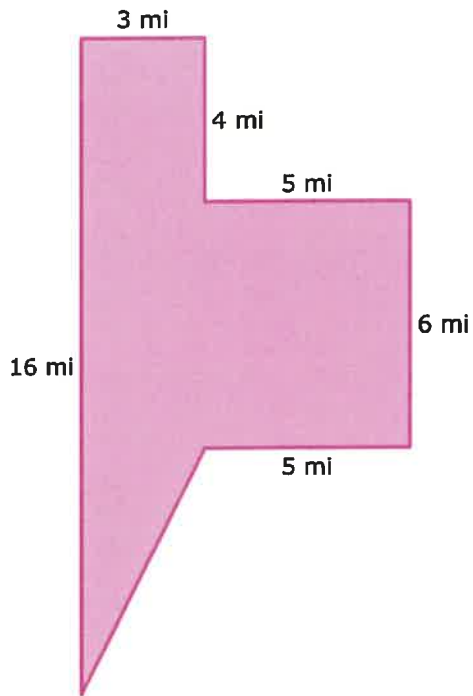
$$6(3q - 5) = \boxed{}$$

5. Simplify the expression:

$$5(-8 + 3g) = \boxed{}$$

Summer Week 1 Grade 8 Day 4

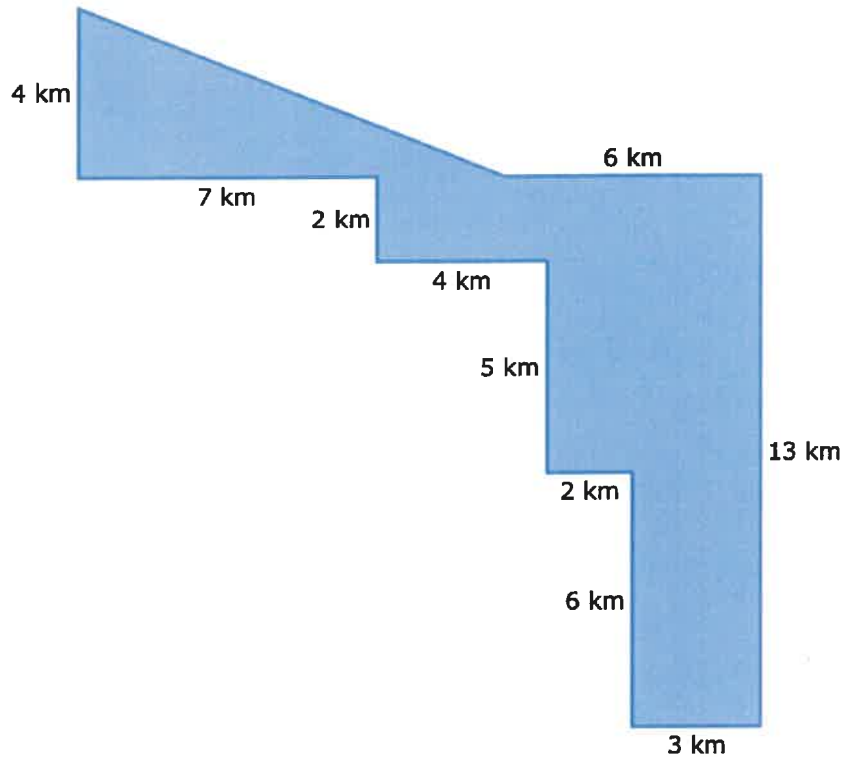
1. What is the area of this figure?



Write your answer using decimals, if necessary.

square miles

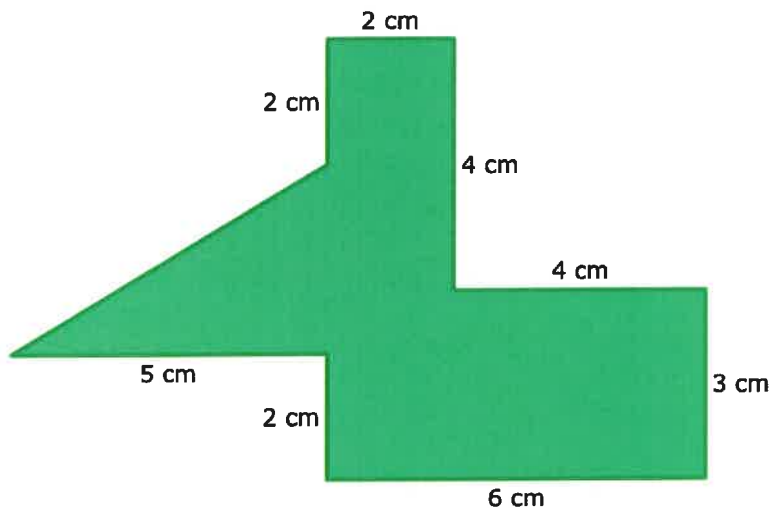
2. What is the area of this figure?



Write your answer using decimals, if necessary.

square kilometers

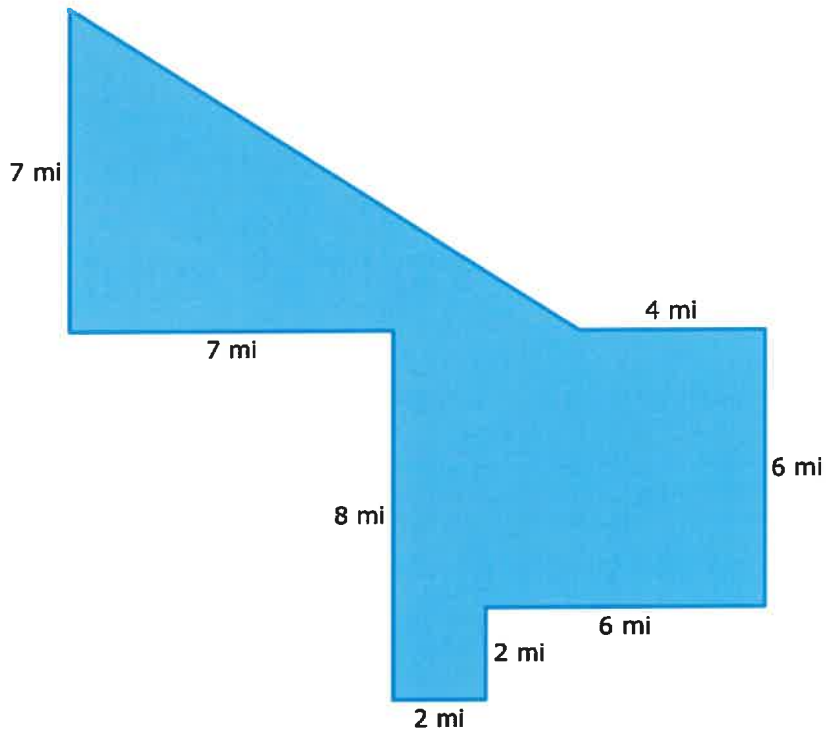
3. What is the area of this figure?



Write your answer using decimals, if necessary.

square centimeters

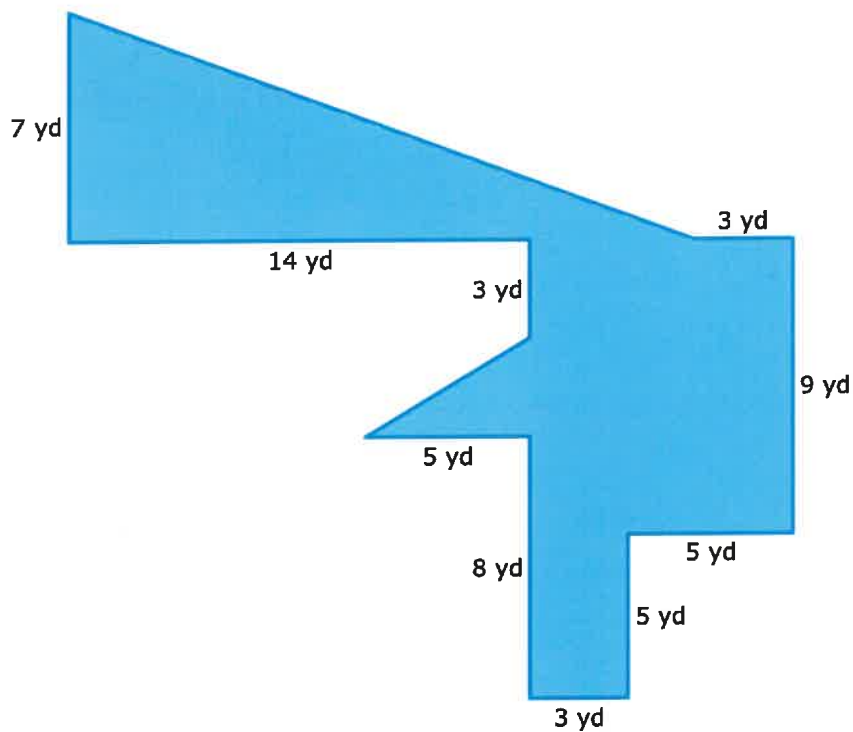
4. What is the area of this figure?



Write your answer using decimals, if necessary.

square miles

5. What is the area of this figure?



Write your answer using decimals, if necessary.

square yards

Summer Week 1 Grade 8 Day 5

1. Add.

$$\frac{1}{5} + \frac{-4}{5} = \boxed{}$$

2. Subtract.

$$\frac{7}{10} - \frac{-1}{10} = \boxed{}$$

3. Subtract.

$$\frac{7}{8} - \frac{-5}{8} = \boxed{}$$

4. Subtract.

$$\frac{-3}{8} - \frac{1}{2} = \boxed{}$$

5. Add.

$$\frac{3}{10} + \frac{-3}{5} = \boxed{}$$

Summer Week 2 Grade 8 Day 6

1. Type the integer that makes the following division sentence true:

$$\frac{\boxed{}}{-14} = -16$$

2. Type the integer that makes the following multiplication sentence true:

$$\boxed{} \times -5 = 400$$

3. Type the integer that makes the following multiplication sentence true:

$$\boxed{} \times 14 = 168$$

4. Type the integer that makes the following division sentence true:

$$\boxed{} \div -20 = 9$$

5. Type the integer that makes the following multiplication sentence true:

$$\boxed{} \times -10 = 50$$

Summer Week 2 Grade 8 Day 7

1. Read the description of a proportional relationship.

Barbara and her friends set out to sea on their annual fishing trip. There is a proportional relationship between the time (in hours) Barbara and her friends spend sailing, x , and their distance from shore (in miles), y .

After sailing for 2 hours, they are 24 miles from shore. Write the equation for the relationship between x and y .

$$y = \boxed{}$$

2. Read the description of a proportional relationship.

Barbara and her friends set out to sea on their annual fishing trip. There is a proportional relationship between the time (in hours) Barbara and her friends spend sailing, x , and their distance from shore (in miles), y .

The equation that models this relationship is $y = 12x$.

How far from shore are Barbara and her friends after sailing for 5 hours? Write your answer as a whole number or decimal.

miles

3. Read the description of a proportional relationship.

Barbara and her friends set out to sea on their annual fishing trip. There is a proportional relationship between the time (in hours) Barbara and her friends spend sailing, x , and their distance from shore (in miles), y .

The equation that models this relationship is $y = 12x$.

How long does it take Barbara and her friends to sail 84 miles from shore? Write your answer as a whole number or decimal.

hours

4. Read the description of a proportional relationship.

The Unruly Queens chess club is hosting a tournament, and each club member is bringing something to eat or drink. Hannah decides to bring oatmeal raisin cookies from her favorite bakery. There is a proportional relationship between the number of oatmeal raisin cookies Hannah buys, x , and their total cost (in dollars), y .

For \$24, she can buy 12 oatmeal raisin cookies. Write the equation for the relationship between x and y .

$y =$

5. Read the description of a proportional relationship.

The Unruly Queens chess club is hosting a tournament, and each club member is bringing something to eat or drink. Hannah decides to bring oatmeal raisin cookies from her favorite bakery. There is a proportional relationship between the number of oatmeal raisin cookies Hannah buys, x , and their total cost (in dollars), y .

The equation that models this relationship is $y = 2x$.

How many cookies can Hannah buy for \$26? Write your answer as a whole number or decimal.

cookies

Summer Week 2 Grade 8 Day 8

1. Add.

$$(2m - 1) + (-8m + 6)$$

2. Subtract.

$$(8b - 1) - (4b - 3)$$

3. Add.

$$(2j - 6) + (-2j - 8)$$

4. Subtract.

$$(-9v + 8) - (4v + 4)$$

5. Add.

$$(2s + 2) + (s + 8)$$

Summer Week 2 Grade 8 Day 9

1. The circular base of a floor lamp has a radius of 4 inches. What is the lamp base's circumference?

If necessary, round your answer to the nearest hundredth.

inches

2. A state seal, which is round, hangs in the capitol building. It has a diameter of 4 yards. What is the seal's area?

If necessary, round your answer to the nearest hundredth.

square yards

3. Carmen is using a compass to navigate back to base camp. The compass has a diameter of 4 centimeters. What is the compass's circumference?

If necessary, round your answer to the nearest hundredth.

centimeters

4. An igloo has a circular floor with a diameter of 4 yards. What is the floor's radius?

yards

5. Jerry is about to cut out snickerdoodle cookies with a circular cutter. The cutter's packaging says it has a circumference of 100.48 millimeters. What is the cutter's radius?

If necessary, round your answer to the nearest hundredth.

millimeters

Summer Week 2 Grade 8 Day 10

1. Solve for w .

$$\frac{w}{2} + 19 = 28$$

$$w = \boxed{}$$

2. Solve for n .

$$4 - 5n = -66$$

$$n = \boxed{}$$

3. Solve for b .

$$\frac{b + 43}{5} = 0$$

$$b = \boxed{}$$

4. Solve for p .

$$\frac{p - 37}{7} = 7$$

$$p = \boxed{}$$

5. Solve for h .

$$-3h + 10 = 82$$

$$h = \boxed{}$$

Summer Week 3 Grade 8 Day 11

1. Evaluate the expression.

$$-7 \div -1 \times (-7 - -6)$$

2. Evaluate the expression.

$$6 \div 1 \div 6 + 6$$

3. Evaluate the expression.

$$7 \times 5 \div 5 \times 5$$

4. Evaluate the expression.

$$-10 \times 7 \div (-3 + 10)$$

5. Evaluate the expression.

$$4 + -8 \times 3 - -7$$

Summer Week 3 Grade 8 Day 12

1. Read the following description of a relationship:

Every New Year's Day, Justin brings 12 candies for each of his grandchildren and 14 more candies for the adults to share.

Let g represent the number of Justin's grandchildren and c represent the total number of candies he brings.

Complete the table using the equation $c = 12g + 14$.

g	c
1	<input type="text"/>
3	50
5	<input type="text"/>
7	<input type="text"/>

2. Read the following description of a relationship:

Whenever Clara's teacher assigns an essay to write, Clara always writes 4 pages more than the minimum.

Let m represent the minimum number of pages and w represent the number of pages Clara writes.

Complete the table using the equation $w = m + 4$.

m	w
1	5
3	<input type="text"/>
5	<input type="text"/>
7	<input type="text"/>

3. Read the following description of a relationship:

A professional dancer spends 1 hour every day stretching, and the rest of her daily practice time on her routine.

Let p represent the number of hours of daily practice and r represent the number of hours spent on the routine.

Complete the table using the equation $r = p - 1$.

p	r
4	3
5	<input type="text"/>
6	<input type="text"/>
7	<input type="text"/>

4. Read the following description of a relationship:

Bridgette read 16 pages of a book then stopped. She later decided to continue the book and read 9 more pages every day.

Let d represent the number of days since Bridgette decided to continue the book and p represent the total number of pages of the book she had read.

Complete the table using the equation $p = 9d + 16$.

d	p
6	<input type="text"/>
7	<input type="text"/>
8	88
9	<input type="text"/>

5. Read the following description of a relationship:

Jaylen has a superhero lunch box collection with 16 lunch boxes in it. From now on, he decides to buy one new lunch box every year for his birthday.

Let y represent the number of years from now and b represent the total number of lunch boxes in his collection.

Complete the table using the equation $b = y + 16$.

y	b
5	<input type="text"/>
6	<input type="text"/>
7	23
8	<input type="text"/>

Summer Week 3 Grade 8 Day 13

1. Factor $49w - 63x - 14y - 21$.

Write your answer as a product with a whole number greater than 1.

2. Factor $48z + 18$.

Write your answer as a product with a whole number greater than 1.

3. Factor $27a + 72b$.

Write your answer as a product with a whole number greater than 1.

4. Factor $14t - 16u - 10v$.

Write your answer as a product with a whole number greater than 1.

5. Factor $6v + 18w + 12$.

Write your answer as a product with a whole number greater than 1.

Summer Week 3 Grade 8 Day 14

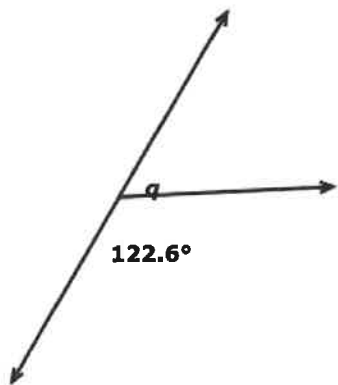
1. The measure of an angle is 58.9° . What is the measure of its complementary angle?

°

2. The measure of an angle is 131.7° . What is the measure of its supplementary angle?

°

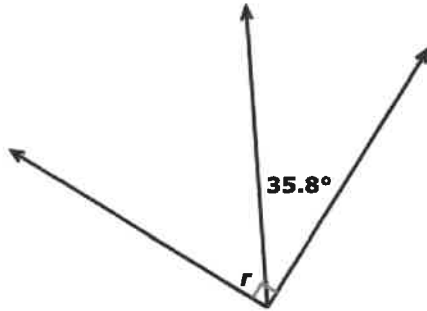
3. What is the value of q ?

°

4. The measure of an angle is 61.6° . What is the measure of its complementary angle?

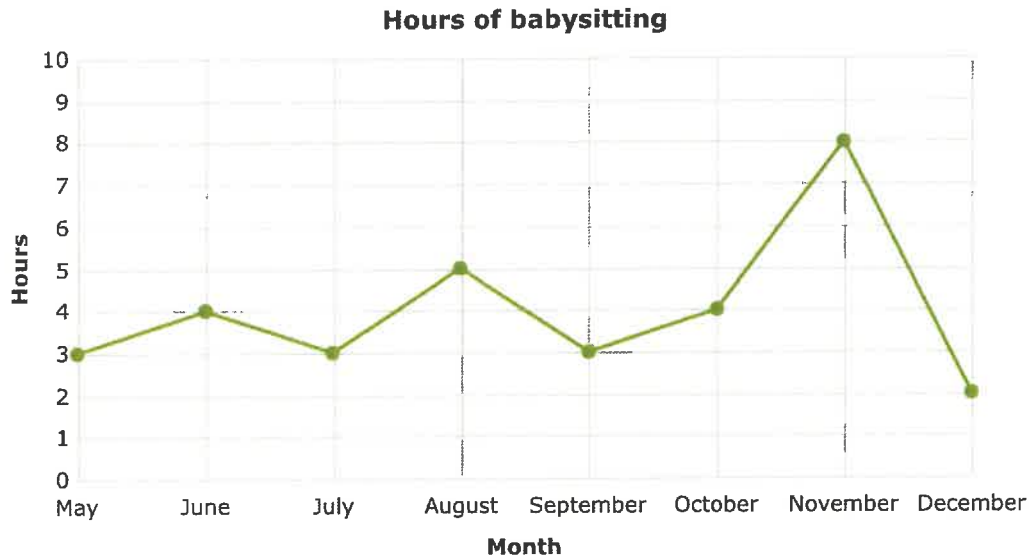
°

5. What is the value of r ?

°

Summer Week 3 Grade 8 Day 15

1. Sandeep looked at his calendar to figure out how much time he spent babysitting each month.



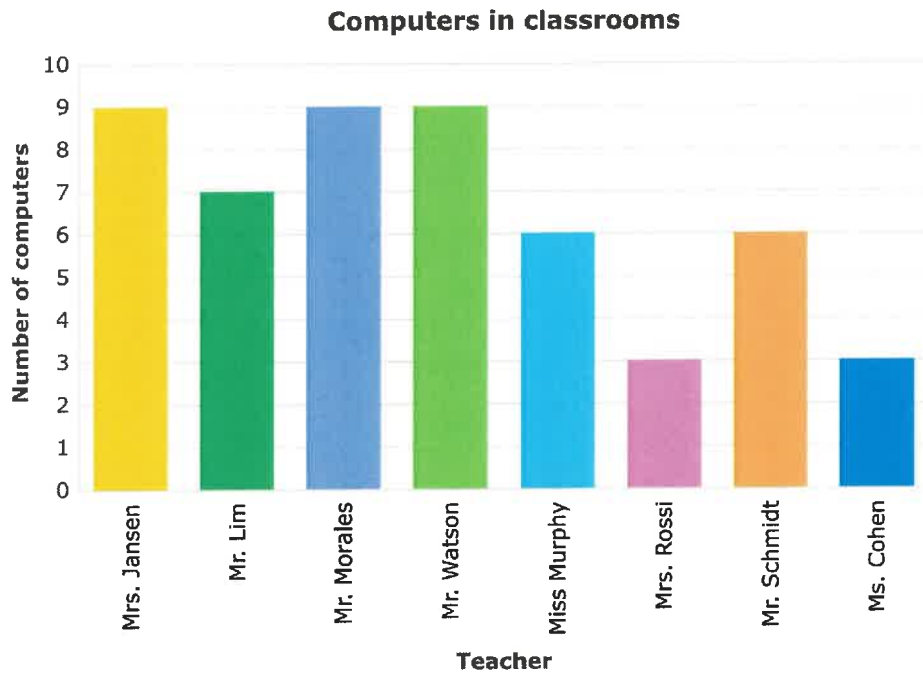
What is the mean of the numbers?

2. Some students compared how many blocks they live from school.

Blocks from school	
Name	Number of blocks
Wyatt	8
Colette	8
Nicholas	2
Aiden	8
Felix	2
Tess	9
Shelby	9

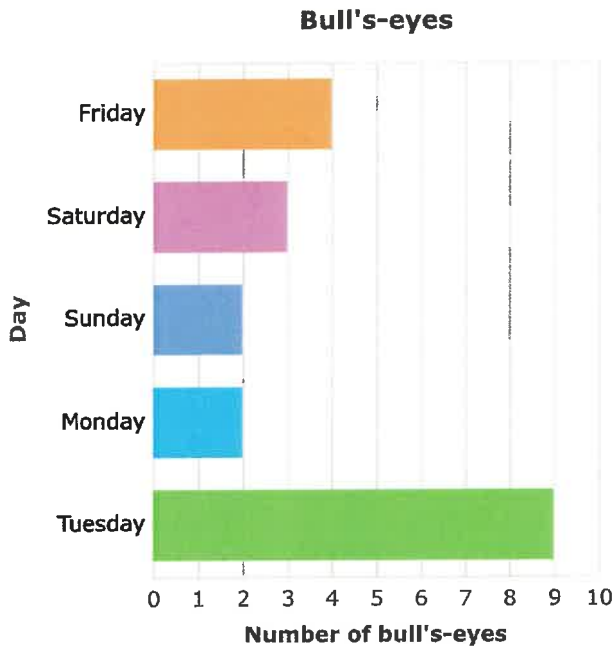
What is the mode of the numbers?

3. The teachers at a middle school counted how many computers they had in their classrooms.



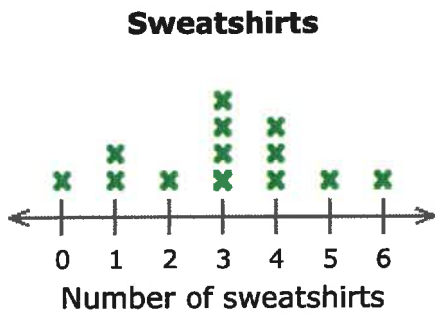
What is the mode of the numbers?

4. An archer recalled how many times he hit the bull's-eye in the past 5 days.



What is the range of the numbers?

5. A clothing store asked some students how many sweatshirts they owned.



What is the mean of the numbers?

Summer Week 4 Grade 8 Day 16

1. Which expression is equivalent to $9(3b + 5) + 5$?

$$3(9b + 5) + 5$$

$$5(9b + 3) + 5$$

$$50b + 27$$

$$27b + 50$$

2. Which expression is equivalent to $(2u + 8) - (9u + 3)$?

$$(8u + 2) - (3u + 9)$$

$$(8u + 2) - (9u + 3)$$

$$5u - 7$$

$$(8 + 2u) - (3 + 9u)$$

3. Which expression is equivalent to $7(5t + 1) + 5(t + 3)$?

$22t + 40$

$40t + 16$

$40t + 22$

$36t + 22$

4. Which expression is equivalent to $4(7g + 3) + g$?

$12g + 29$

$8g + 12$

$29g + 12$

$29g + 3$

5. Which expression is equivalent to $(6c + 5) + (-5c - 7)$?

$$(5c + 6) + (-7c - 5)$$

$$-2c + 1$$

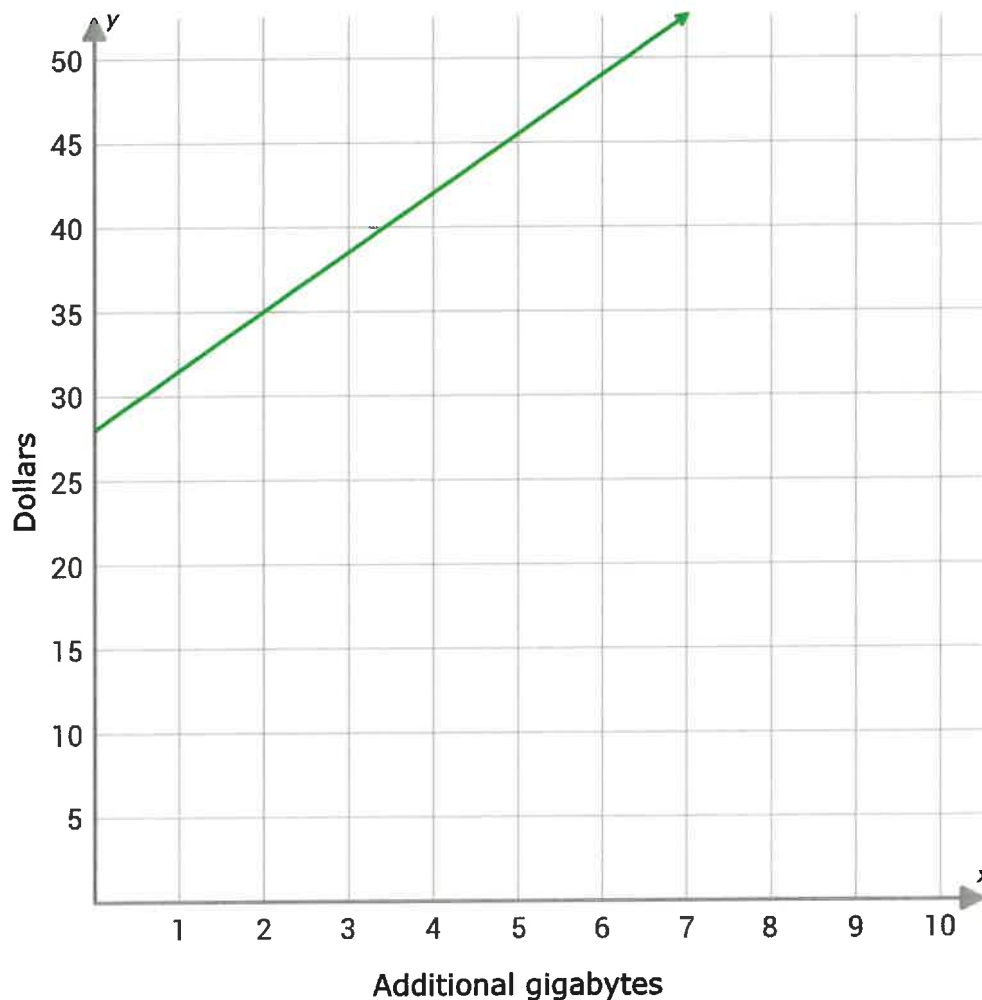
$$5 + -5c + 6c - 7$$

$$(6c + 5) + (-7c - 5)$$

Summer Week 4 Grade 8 Day 17

1. Carrie's smartphone plan with Stark Mobile includes unlimited talk and text and a certain amount of data every month. If she uses additional data, she is charged more on her bill.

This graph shows the relationship between the number of additional gigabytes of data Carrie uses in a month, x , and the total amount (in dollars) of her bill, y .

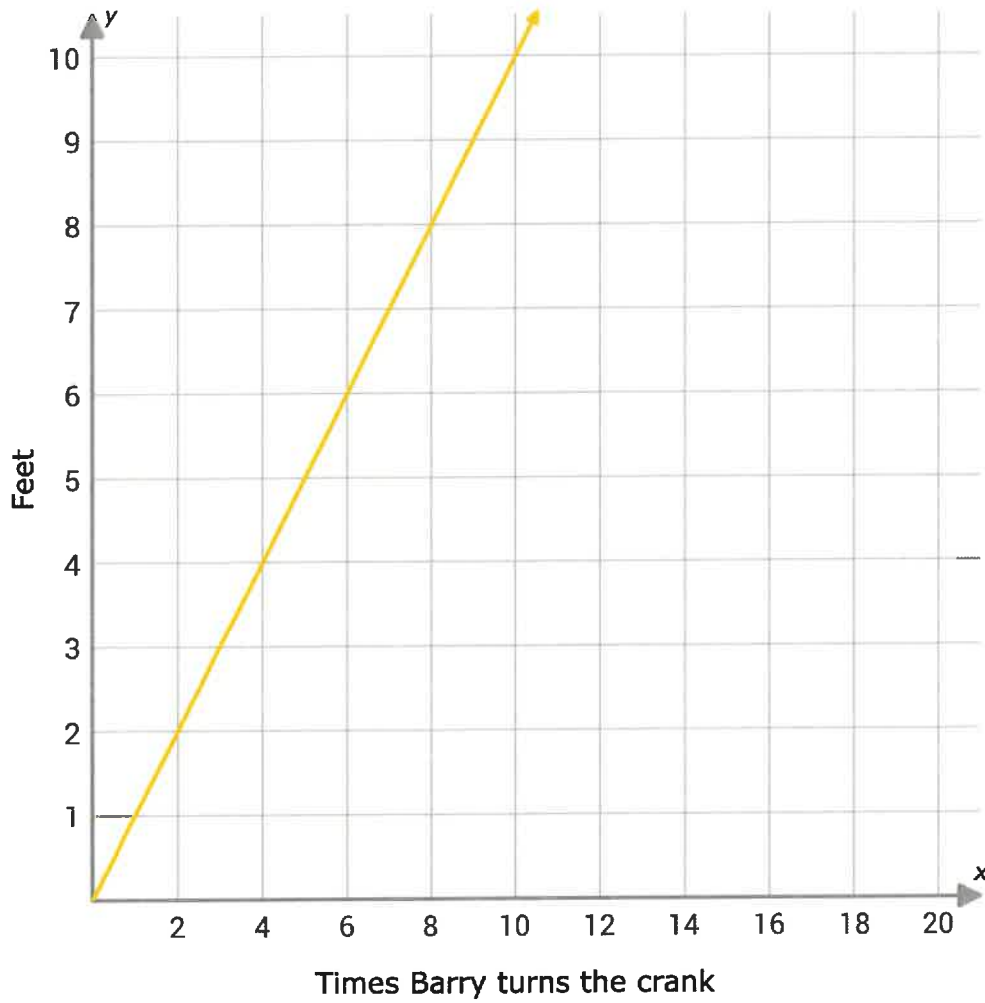


Do x and y have a proportional relationship?

- yes
- no

3. The Picture and Sound electronics store has hired Barry to work in the warehouse. He uses a pulley with a hand crank to lift heavy boxes.

This graph shows the relationship between the number of times Barry turns the crank to lift a box, x , and the height the box has been lifted (in feet), y .

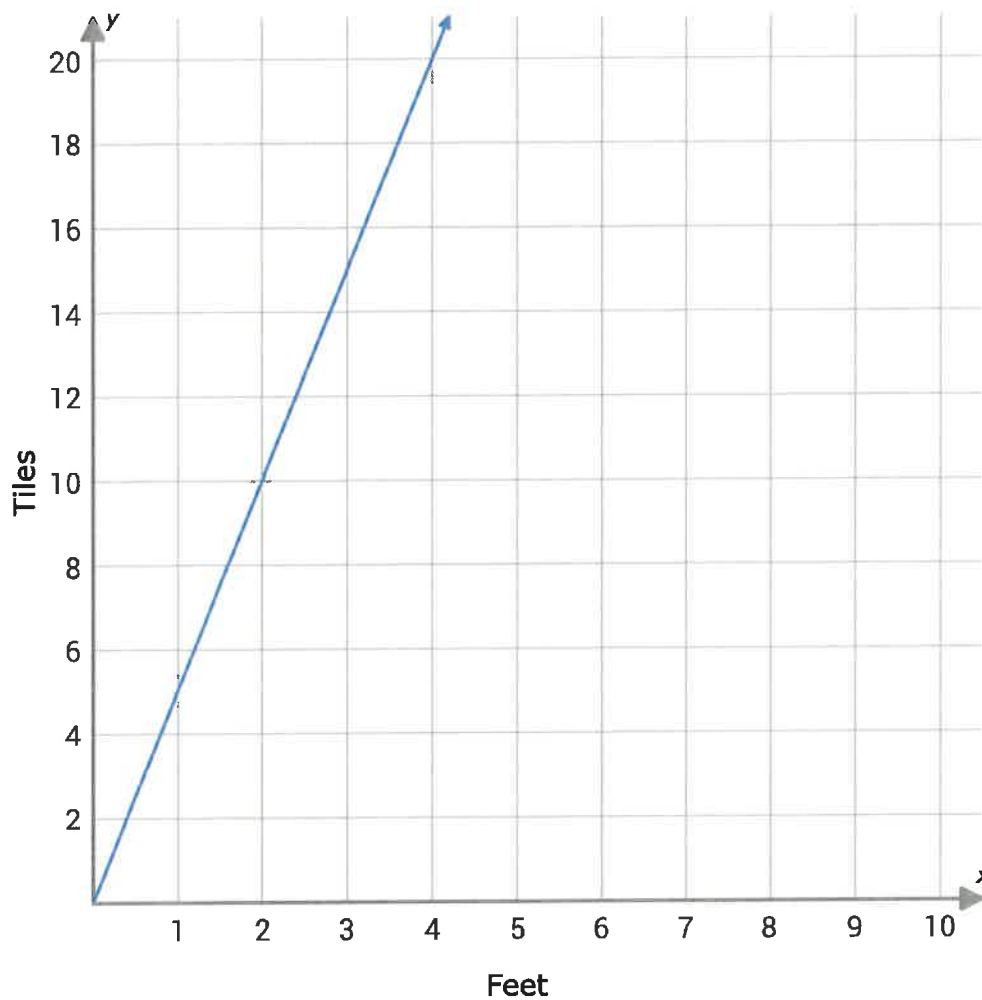


Do x and y have a proportional relationship?

- yes
- no

4. Over the summer, Fairfax Science Academy renovates its building. The academy's principal hires William to lay new tile in the main hallway.

This graph shows the relationship between the length (in feet) of hallway William covers with tiles, x , and the number of tiles he needs, y .

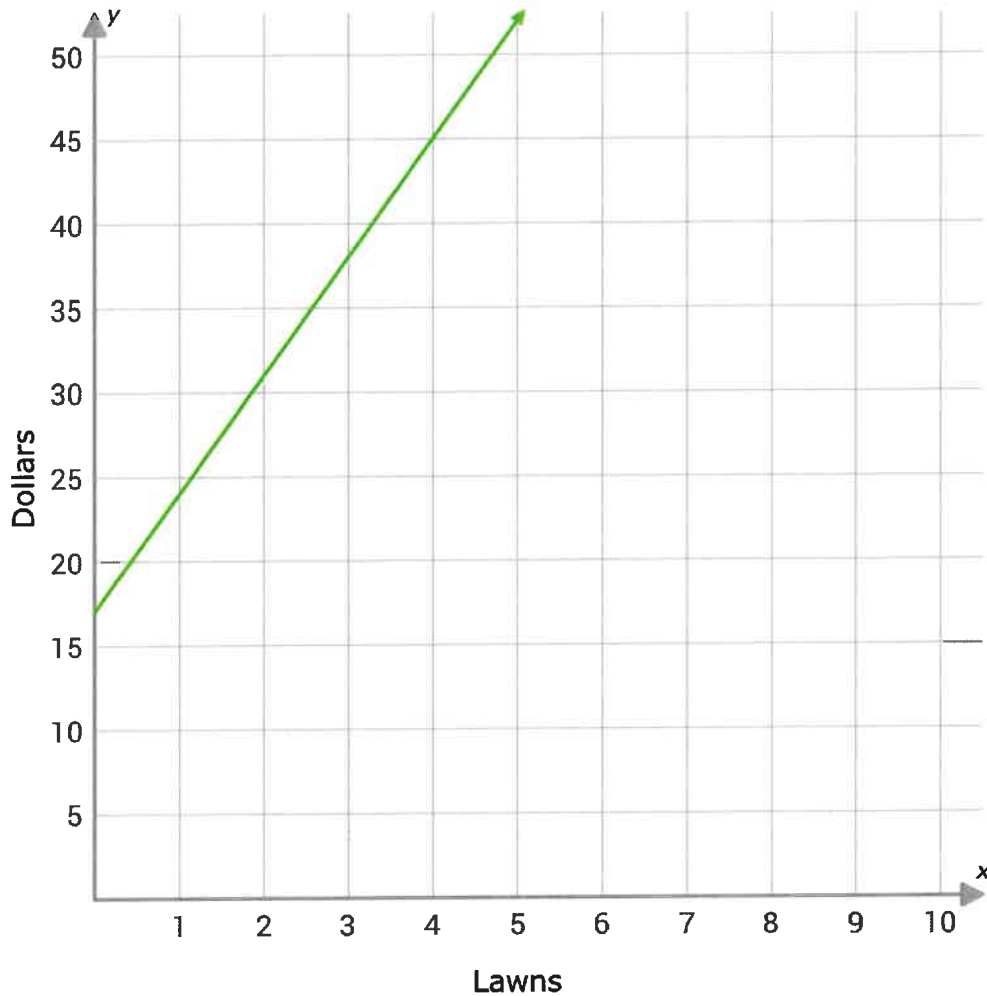


Do x and y have a proportional relationship?

- yes
- no

5. Betty really wants to see her favorite band, L.O.L., in concert, but she doesn't have enough money saved up to buy a ticket. She decides to earn some extra money by mowing her neighbors' lawns.

This graph shows the relationship between the number of lawns Betty mows, x , and the total amount of money (in dollars) she has in savings, y .



Do x and y have a proportional relationship?

- yes
- no

Summer Week 4 Grade 8 Day 18

1. Solve for k .

$$-9 < -11k - 31$$

2. Solve for v .

$$-30 > 22 - v$$

3. Solve for n .

$$57 < 5 - n$$

4. Solve for b .

$$96 \geq 3 - b$$

5. Solve for y .

$$-1y - 44 \geq -55$$

Summer Week 4 Grade 8 Day 19

1. Can the sides of a triangle have lengths 4, 5, and 15?

yes

no

2. Can the sides of a triangle have lengths 14, 4, and 17?

yes

no

3. Can the sides of a triangle have lengths 3, 4, and 8?

yes

no

4. Can the sides of a triangle have lengths 3, 4, and 13?

yes

no

5. Can the sides of a triangle have lengths 10, 18, and 5?

yes

no

Summer Week 4 Grade 8 Day 20

1. Boats from all along the Atlantic coast dock at a busy marina. Of the first boats to dock there one day, 6 of the boats were from Maine, while 12 were from other states. What is the experimental probability that the next boat to dock will be from Maine?

Write your answer as a fraction or whole number.

$$P(\text{Maine}) = \frac{\quad}{\quad}$$

2. A music store sold 86 vinyl records last month, 8 of which were hip-hop albums. What is the experimental probability that the next vinyl record sold will be a hip-hop album?

Write your answer as a fraction or whole number.

$$P(\text{hip-hop}) = \frac{\quad}{\quad}$$

3. Chandler, the owner of a boutique, kept track of which sizes were worn by the store's customers.

small	3
medium	32
large	22

What is the experimental probability that the next customer to come into Chandler's boutique wears a size small?

Write your answer as a fraction or whole number.

$$P(\text{small}) = \frac{\quad}{\quad}$$

4. Of the recent customers at Tasty Burger, 5 wanted cheese on their burgers and 5 did not. What is the experimental probability that the next customer will want cheese on his or her burger?

Write your answer as a fraction or whole number.

$$P(\text{cheese}) = \boxed{}$$

5. Nate made cookies for a bake sale and has tracked his sales by cookie shape.

diamond	5
heart	45
tree	2
cat	38

What is the experimental probability that the next cookie sold will be in the shape of a heart?

Write your answer as a fraction or whole number.

$$P(\text{heart}) = \boxed{}$$