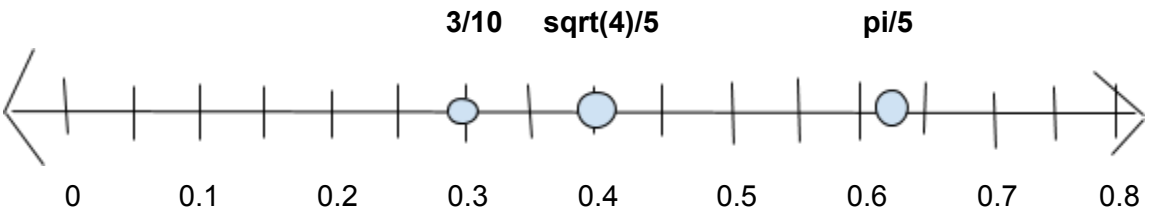
1. 2 medium 10-inch pizzas give A = 50pi while the 1 large 14-inch pizza gives A = 49pi. So pick 2 medium 10-inch pizzas because it gives more pizza for $1 less.

2.

a. 1 + -2 = -1

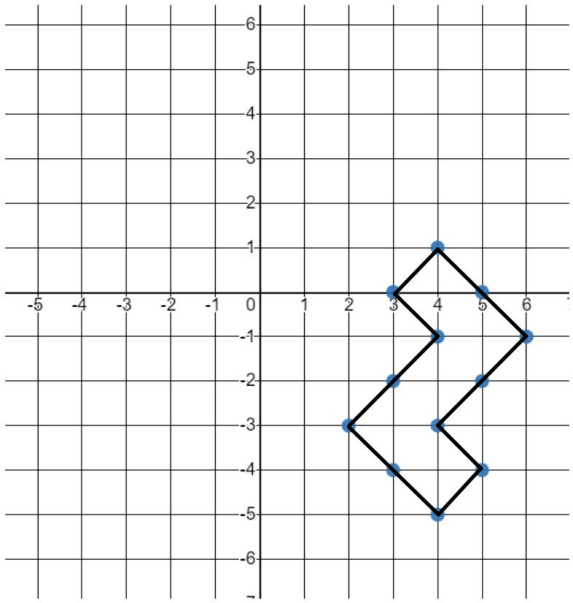
b. 2 + -1 = 1

3.

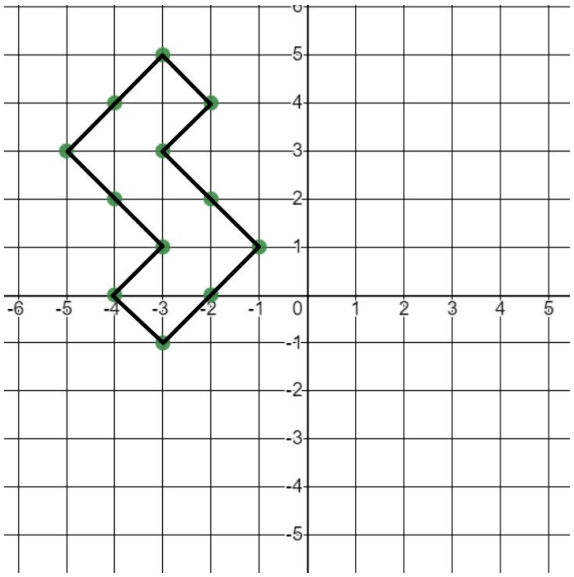


4.

a.



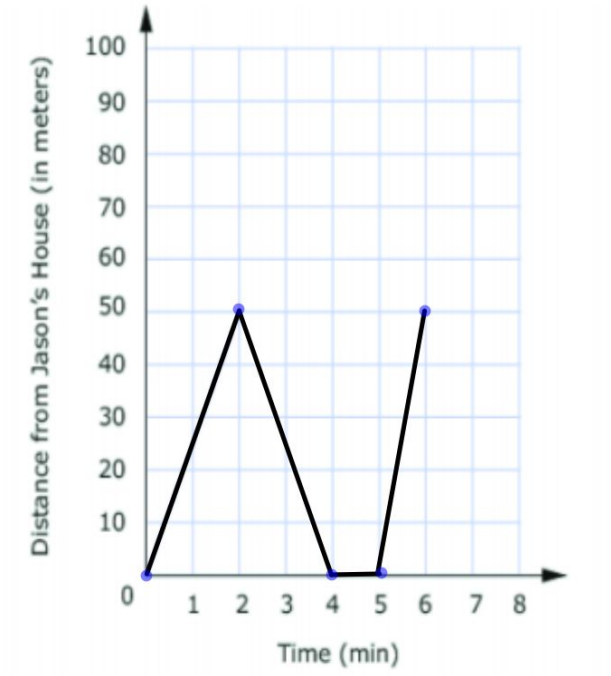
b.



5. Justin: 77 ½ miles = 155/2 miles = 77.5 miles
3 1/10 gallons = 31/10 gallons
77.5 divided by (31/10) equals 25 miles per gallon.
Kim: 99 ⅕ miles = 496/5 miles = 99.2 miles
3 ⅕ gallons = 16/5 gallons
99.2 divided by (16/5) equals 31 miles per gallon.

Kim gets 31 miles per gallon and Justin gets 25 miles per gallon.

6.

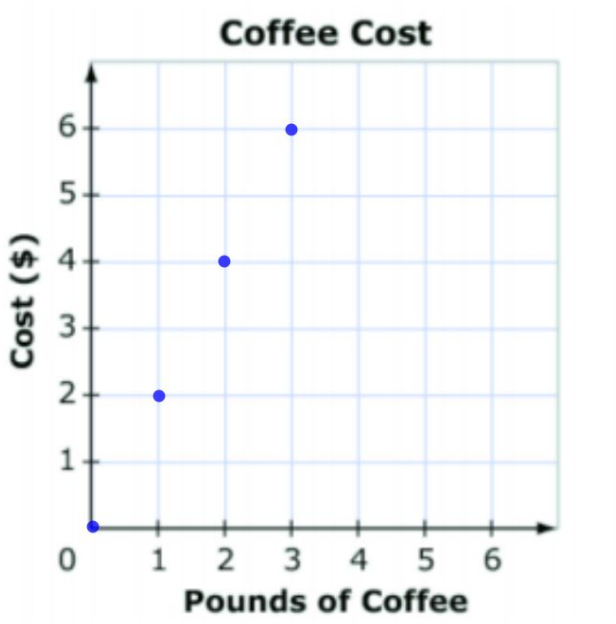


7. Shortest length comes from (sqrt (6)) ^2 + b^2 = (sqrt (10))^2
6 + b^2 = 10
b^2 = 4
b = 2
Longest length comes from (sqrt(6))^2 + (sqrt(10))^2 = c^2
6 + 10 = c^2
16 = c^2
c = 4

8.

	Dog	No Dog	Total
Cat	1	2	3
No Cat	3	4	7
Total	4	6	10

9.



10.
Volume of cone = ⅓ (pi)(r^2)(h)
Volume of sphere = 4/3 (pi)(r^3)

Set them equal to each other since they have the same volume. Also the radius of each is 3

⅓ (pi) (3^2) (h) = 4/3 (pi) (3^3)
⅓ (pi)(9)(h) = 4/3 (pi) (27)
3pi (h) = 36 pi {divide by pi on both sides}
3 (h) = 36 {divide by 3 on both sides to solve for h}
h = 12

11. D, there are infinitely many solutions to this system because the lines are the same, ie. 6=6.

12.

A. Equation with no solutions

$8x - 3x + 2 - x = \boxed{4}x + \boxed{5}$

B. Equation with one solution

$8x - 3x + 2 - x = \boxed{2}x + \boxed{3}$

C. Equation with infinitely many solutions

$8x - 3x + 2 - x = \boxed{4}x + \boxed{2}$

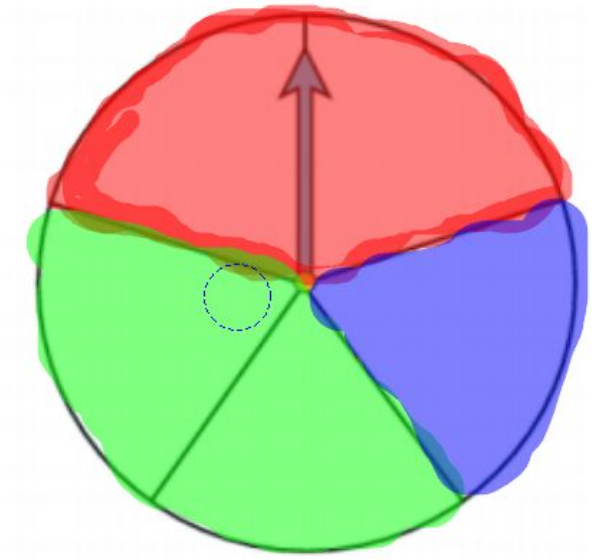
13.
Real and Irrational.

14.
To get the number cubes to both land with an even number, that is ½ times ½ or a ¼ chance which is 25%.
If 10% of players win, then that 25% times the spinner being red must equal 10%

So 25% times x equals 10%.

.25x = .10
X = .4

So the spinner must have a 40% chance of landing on red which is ⅖ of the sections of the circle.



15.

Kyle was given a problem to solve. The problem and his work are shown. What part of Kyle's work contains the mistake? What part of the problem should Kyle read again to fix his mistake?

A company sells baseball gloves and bats. The gloves regularly cost $30 and the bats regularly cost $90. The gloves are on sale for $4 off, and the bats are on sale for 10% off. The goal is to sell $1200 worth of bats and gloves each week. Last week, the store sold 14 gloves and 9 bats.

Did the store meet its goal?

---

1. $30 − $4 = $26

   $26 × 14 = $364

2. $90 ÷ 0.9 = $100

   $100 × 9 = $900

3. $900 + $364 = $1264

16.

a. T = -7
b. M = 50
c. R = 7.5
d. X = -39
e. G = -9/5
f. Y = -24

17.

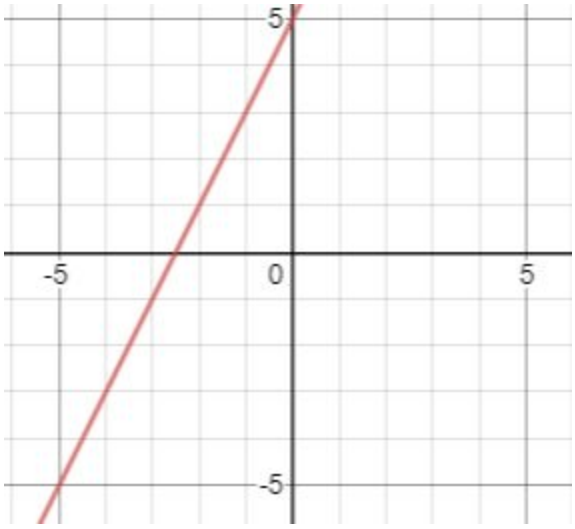
a. X = 3
b. T = -40
c. X = 60
d. T = 11
e. r = -5
f. Y = 0
g. Infinite solutions
h. Y = 1/4

18. X < 5

Graph should be with an open circle at 5, solution set should continue to the left

X<-21
Graph should be with an open circle at -21, solution set should continue to the left

19. y-intercept= (0,5)
Slope =2
Graph:



20.

A. 9
B. 11
C. 8
D. -12

21. Slope:-8/3
Y-intercept: (0,8)

22.
a.The next term is 2. The rule is add three to each term to get the next term.
b. the next term is -96. The rule is multiply each term by two to get the next term.
c. the next term is 25. All of these terms are perfect squares.
d. The next term is 9. The rule is divide each term by three to get the next term.
e The next term is 4. The rule is subtract 5 from each term to get the next term.
f.The next term is 8. The rule is multiply each term by -1 to get the next term.
g. The next term is 1. The rule is divide each term by 2 to get the next term.

23.

a. $a^6b^5c^3$

b. $18a^5b^8c^2$

c. $25x^6y^8z^2$

d. $2x^2y$

e. $6x^{-2}y^4$

f. x^{-3}

g. 5

h. 2

i. 20, 10(multiple answers)

j. 8, 6 (multiple answers)

k. 8, 8, 8

l. 6, 2, 2 (multiple answers)

24.

a. In order for -4n=some negative number, n must be a positive number.

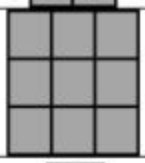
b. In order for -4n=some positive number greater than 28, n must be less than or equal to -7.

c. 100/n = some negative number between -20 and -1, n must be between negative -5 and -100

d. N is even

e. A must be a negative number

25.

Area Model	Equivalent Expression	Exponential Form	Value
	2 x 2	2^2	4
	3 x 3	3^2	9
	5 x 5	5^2	25
	4 x 4	4^2	16
	6 x 6	6^2	36

26.

a. c=5
b. b=12
c. a=6
d. c=9.9, approx. the square root of 98

27.

Rod length	Number of stickers
1	6
2	10
3	14
4	18
5	22
6	26
7	30
8	34
9	38

10	42

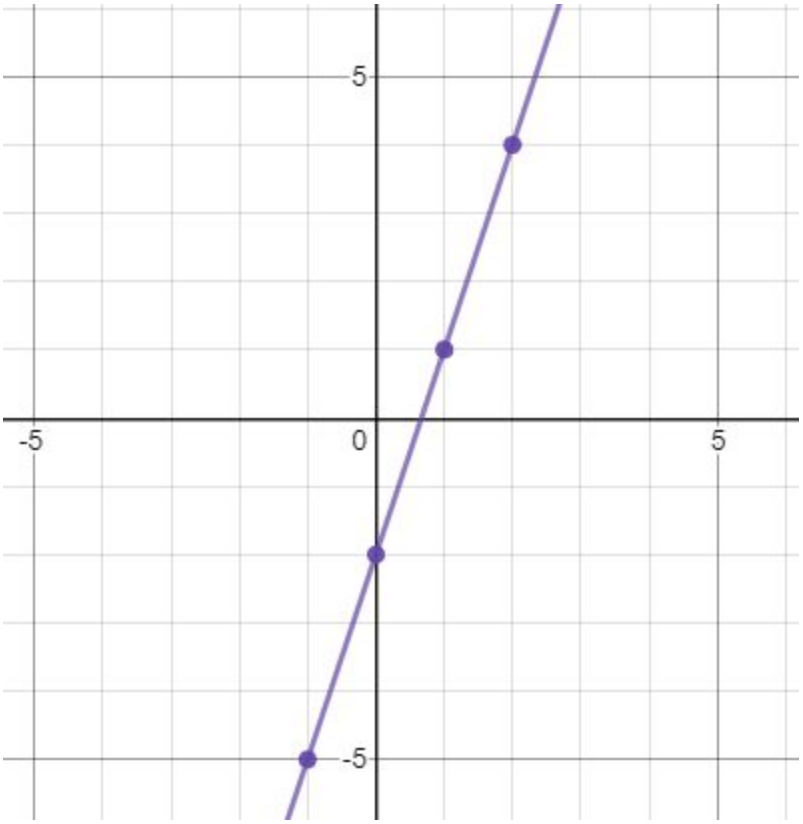
B. for length 20= 82
For length 56=226
For length 127=550
C. rule: 4n+2, where n is length of the rod

28.
a.sometimes, when y=0
b. always true, they are the same line
c. never
d.sometimes, when x = -10 or 10
e.Never
f. Sometimes, when y=¼

29
a.the bottom shaded square remains dark
b.

Stage	Number of tiles
1	1
2	4
3	7
4	10
5	13
6	16
7	19
8	22
9	25

c. arithmetic sequence, it’s adding 3 each time

d. 

e. f(n)=1+3(n-1)

30. A baseball hat costs 24 dollars and a cowboy hat costs 28 dollars
31. 3 squares are needed to balance the cicle
32. s=18
33. 7