Summer 2020 Review of MP1 - MP3 SY2019-2020

1) Order the following real numbers in descending order:

1.6 x 10^2 161% 17/10

1.5 x 10^(-3) 17% 9/10

2) Order the following real numbers in ascending order:

0.04 4.1 x 10^(-3) 40%

$\sqrt{17}$ 1/26

Between which two integers do the following square roots lie? Use your understanding of perfect squares to determine your answer.

3) $\sqrt{111}$

4) $-\sqrt{23}$

5) $-\sqrt{55}$

6) $\sqrt{139}$

7) The sum of two rational numbers is

_____.

8) The product of two rational numbers is

_____.

9) The sum of a rational number and irrational number is

_____ .

10) The product of a nonzero rational number and irrational number is

_____ .

11) Determine which of the following sets of numbers the following numbers belong (there can be more than one answer for each):

Sets of numbers = {Reals, Rationals, Irrationals, Integers, Whole, Natural}

a) $\sqrt{11}$

b) $-\sqrt{49}$

c) $|-0.25|$

d) 3π

12) Give an example of an integer that is not a whole number.

13) Give an example of a rational number that is not an integer.

14) Give an example of a whole number that is not a natural number.

15) Give an example of a natural number that is not an integer.

Find each square root.

16) $\sqrt{361}$

17) $-\sqrt{196}$

18) $-\sqrt{324}$

19) $\sqrt{400}$

Use simple interest to find the ending balance.

20) \$1,920 at 9% for 8 years

21) \$16,100 at 6% for 6 years

Find the selling price of each item.

22) Original price of a shirt: \$23.50
Discount: 60%
Tax: 6%

23) Cost of a microscope: \$4.95
Markup: 55%
Tax: 4%

24) Pam was looking through her checking account. Her starting balance was \$112.82. She purchased \$54.85 at the grocery store, \$6.25 at the coffee shop, and \$26 at the movies. She deposited two checks, one for \$85 and one for \$70. What is her ending balance?

Evaluate each using the values given.

25) $3y - (y - (y - x))$; use $x = -\frac{1}{2}$, and $y = -\frac{4}{5}$

26) $\frac{j^2 + 3h}{2}$; use $h = -5$, and $j = 5$

27) Describe how you determine if a graph of discrete points is a function.

28) Determine if the following set of ordered pairs represent a function:

{(-2, 2); (3, 2); (1, 5); (-4, 5)}

29) Determine if the following set of ordered pairs represent a function:

{(2, -2); (2, 3); (5, 1); (5, -4)}

30) Determine the domain and range for the relationship given below:

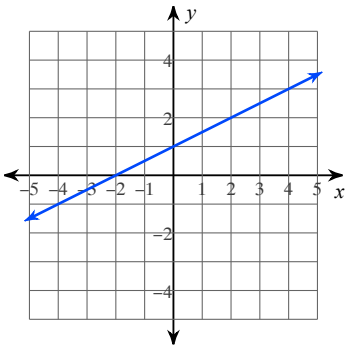
{(-1, 3); (2, 5); (7, -4); (2, 8); (9, 10)}

31) Draw a sketch of a graph with the following slopes:

a) positive b) negative c) zero

Determine the sope and y-intercept of the line graphed below.

32)



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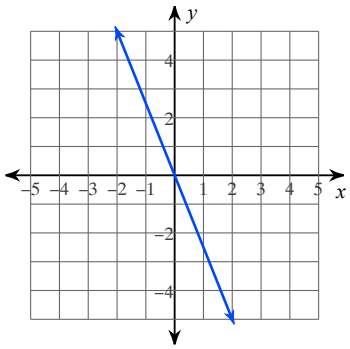


Identify the slope and y-intercept of the line from the equation given below.

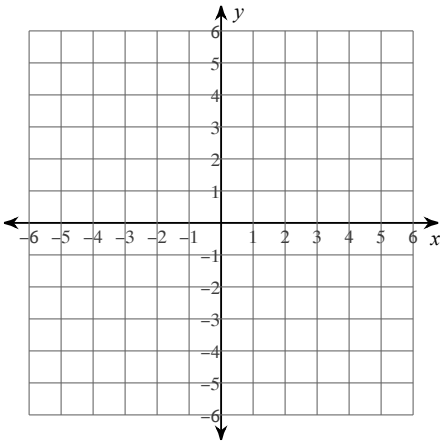
34) $x = -1$

35) $y = x + 2$

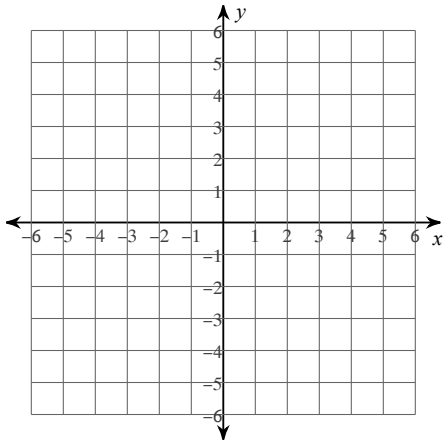
36) Stephanie babysits kids in her neighborhood for extra money. She charges $8 per hour. One week she worked 10 hours. The relationship can be modeled by a linear function. Determine the independent and dependent variables.

Sketch the graph of each line.

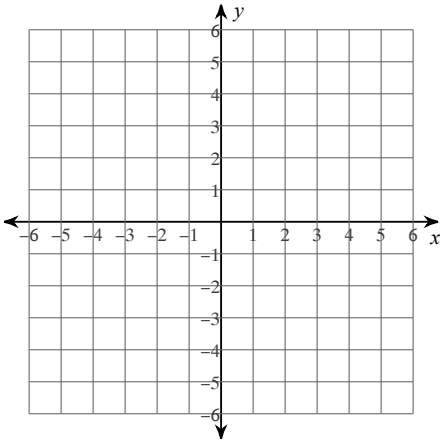
37) $y = x + 3$



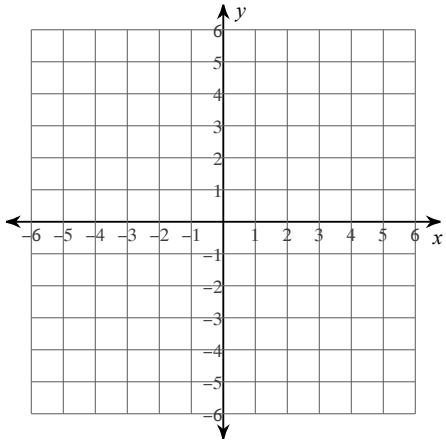
38) $y = -\frac{7}{4}x + 5$



39) $y = -\frac{2}{3}x$



40) $y = -\frac{1}{2}x + 2$



Write the slope-intercept form of the equation of each line given the slope and y-intercept.

41) Slope $= \frac{1}{4}$, y-intercept = 3

42) Slope $= -\frac{3}{5}$, y-intercept = 2

43) Every Friday night the Smith family orders pizza. Each pizza costs \$9. In addition, there is always a \$3 delivery fee. Write an equation in slope-intercept form that models the relationship between the number of pizzas the Smith family orders and the total amount of money they pay.

Solve each equation.

44) $6(5 - 2n) = 114$

45) $-32 - 2b = -8(4 - 8b)$

46) $\frac{7}{12} = -\frac{3}{2}n + \frac{4}{3}n$

47) $4(-7n - 1) = -n + 23$

48) Kayla was going to sell all of her stamp collection to buy a video game. After selling half of them she changed her mind. She then bought eleven more. How many did she start with if she now has 26?

49) Aliyah won 118 pieces of gum playing horseshoes at the county fair. At school she gave four to every student in her math class. She only has 2 remaining. How many students are in her class?

Write each as an algebraic expression.

50) 14 less than t is equal to 26

51) Twice the sum of a number and seven is -11.

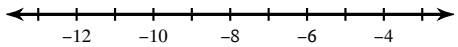
Write each as a verbal expression.

52) $p + 8 = 25$

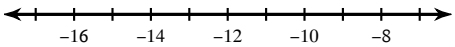
53) $(n - 5) \div 7 = 14 + n$

Solve each inequality and graph its solution.

54) $-132 > -4(-4x + 8) - 4$

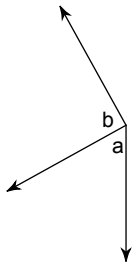


55) $-5(1 + 7n) + 4n < 274$



Name the relationship: complementary, supplementary, vertical, or adjacent.

56)



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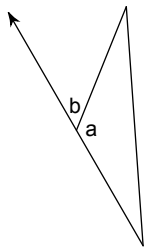

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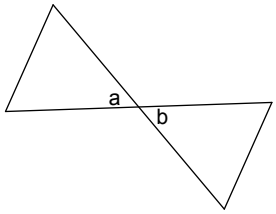

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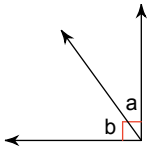
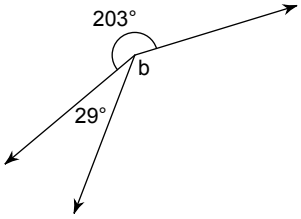


Find the measure of angle b.

60)



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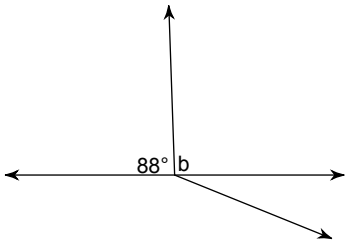
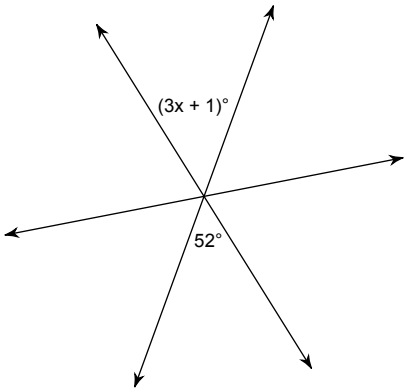


Find the value of x.

62)



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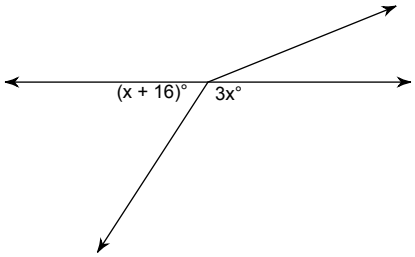
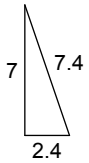


Do the following lengths form a right triangle?

64)



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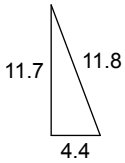
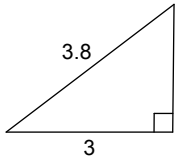


Find each missing length to the nearest tenth.

66)



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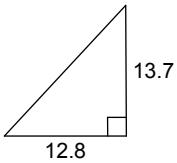

68) A 10-foot ladder is leaning against a wall. If the base of the ladder is 6 feet from the wall, how far up the wall does the ladder reach?

Determine if the two events are independent or dependent.

69) In my drawer there are 10 white socks and 8 black socks. I pull one sock out of the drawer for my left foot. Then I pull a second sock out of the drawer for my right foot.

70) I shuffle a deck of cards I draw one card, look at it, and put it back in the deck. Then I draw a second card.

71) How are depedent and indepedent events similar and different? Use examples to help explain your reasoning.

72) I roll a six-sided die two times. What is the probability that I get a prime number on both rolls?

73) I draw a card from a 52-card deck. I replace the card and draw a second card. What is the probability that I get a face card (jack, queen, or king) both times?

Draw a box-and-whisker plot for each data set.

74) Minutes to Run 5km

36.6	29.9	32	37.2	33
36.3	35	42.2	32.9	34.6
34.9	37.3	27.2	27.2	29
29	23.7			

75) What observations and inferences can you make about the data in the boxplot you just drew for question #74?

76) Determine (a) the minimum, (b) the maximum, (c) the median, (d) the upper quartile, (e) the lower quartile, (f) the range, and (g) the interquartile range for the data in problem #74.

Construct a scatter plot. State if there appears to be a positive linear relationship, negative linear relationship, or no linear relationship. When there is a linear relationship find the slope-intercept form of the equation of the line that best fits the data.

77)

X	Y
3	1
13	2
19	2
21	2

X	Y
34	3
47	4
65	6

X	Y
69	7
94	9
96	9