

## Quarter 1 Review:

1. Solve:  $-30c - 6 = -9c - 3$

2. Solve and Graph:  $3(x + 1) - 4x \geq -5$

3.) At 5:00 PM in Atlanta, Georgia, Ethan noticed the temperature outside was  $72^{\circ}\text{F}$ . The temperature decreased at a steady rate of  $2^{\circ}\text{F}$  per hour. At what time was the temperature below  $64^{\circ}\text{F}$ ?

\* Review graphing rules

3.) Use the equation  $y = \frac{1}{3}xz^2r$  to solve for z.

**Section 3- Functions**

\*Definition of Function

1.) Tell whether the following relations are a function. (topic 1)

- a.)  $\{(0,5),(2,3),(5,8),(3,8)\}$
- b.)  $\{(6,5),(4,1),(-3,2),(4,2)\}$

2.) Isaac Messi is disorganized. To encourage Isaac to be more organized, his father promised to give him three dollars for every day that schoolwork is organized. (topic 1)

- a.) Define the input and output for the given scenario.
- b.) Write a function to represent this situation.

4.) Let  $h(x) = 2x^2 + x - 5$  and  $g(x) = -3x^2 + 4x + 1$  (topic 3)

- a.) Find  $h(x) + g(x)$

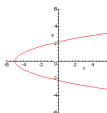
5.) If  $f(x) = -2x + 3$ ,

- a.) Find  $f(2) + f(-5)$

6.) The length and width of a rectangle are  $(6x + 5)$  and  $(5x + 3)$ . What is the area of the rectangle? (topic 4)

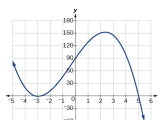
7.) Multiply  $2(3x-4)(x+2)$

7.) Is the following graph a function? (topic 7)



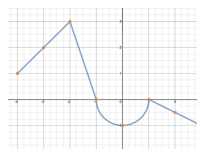
8.) Is the following graph a function?

What is  $f(-3)$ ?  $f(0)$ ?  $f(2)$ ?



9.) Discuss the key features of the following graph. (topic 8)

- \*Domain
- \*Range
- \*Relative minimum
- \*Relative maximum
- \*Increasing intervals
- \*Decreasing intervals
- \* x-intercept
- \*y-intercept



10.) Describe the transformation. (topic 10)

- a.)  $f(x) + k$
- b.)  $f(x) - k$
- c.)  $f(x + k)$
- d.)  $f(x - k)$

## Section 4

1. The T-Mobile ONE family plan includes four lines and unlimited data, calls, and texts for \$160.00 per month, including taxes and fees. There is an activation fee of \$80.00. (topic 4)

a.) Define the variables and write a function that represent this situation.

2.) The function  $f(x) = 2x + 57$  represent the amount of money that Sam's towing charges for  $x$  number of miles.

a.) What is the slope of the function and what does it represent?

b.) What is the y-intercept of the function and what does it represent?



