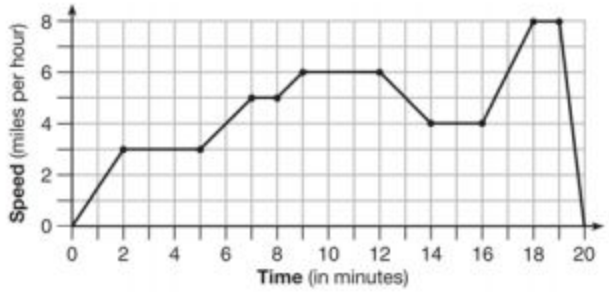
Algebra 1 Chapter 5 Pre-Test

1.) (2.5 pts each, 10 pts total) (5-1) The graph below represents Arlene's speed during her 20-minute jog around her neighborhood. Use the graph to answer the following questions.




a) During which intervals was Arlene's speed increasing?

b) During which intervals was Arlene's speed decreasing?

c) During which intervals was Arlene's speed constant?

d) What time(s) did Arlene stop?

2.) (5 pts total) (5-2) Find the domain and range of each relation.

a) {(-2,7), (-1,4), (0,9), (3,2)}

Domain: Range:

3.) (5 pts each, 10 pts total) (5-2) Determine whether each relation is a function.

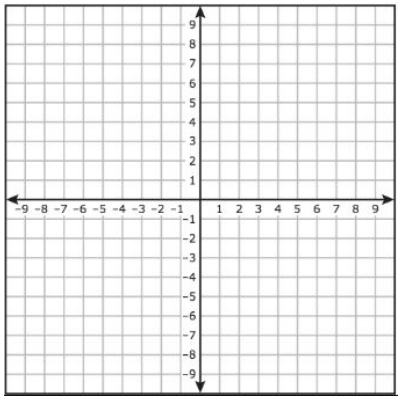
a) {(-8,4), (-4,4), (-1,2), (7,2)}

b) {(-6,3), (-5,-9), (-5,0), (-2,3)}

4.) (10 pts each, 20 pts total) (5-3) Use a table to graph each of the following functions.

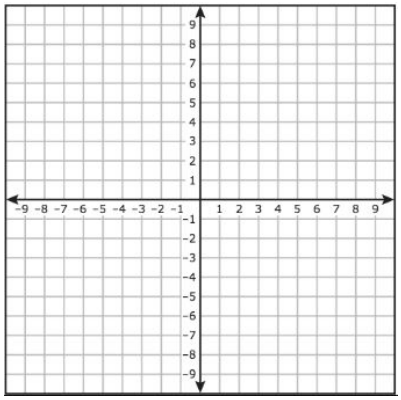
a) $y = 3x - 5$

| x | y = 3x - 5 | y |
|---|---|---|
| -2 | | |
| -1 | | |
| 0 | | |
| 1 | | |
| 2 | | |



b) $y = -2x + 3$

| x | y = -2x + 3 | y |
|---|---|---|
| -2 | | |
| -1 | | |
| 0 | | |
| 1 | | |
| 2 | | |



5.) (5 pts each, 15 pts total) (5-4) Analyze table and write the function rule.

| x | f(x) |
|---|---|
| 1 | 4 |
| 3 | 6 |
| 7 | 10 |
| 8 | 11 |

| x | f(x) |
|---|---|
| 0 | 0 |
| 2 | 7 |
| 4 | 14 |
| 10 | 35 |

| x | f(x) |
|---|---|
| -4 | 10 |
| -2 | 12 |
| 1 | 15 |
| 3 | 17 |

6.) (5 pts each, 10 pts total) (5-5) For the data in the table, tell whether y varies directly with x. If it does, write an equation for direct variation.

| **x** | **f(x)** |
|---|---|
| -3 | 9 |
| 0 | 0 |
| 2 | 14 |
| 8 | 20 |

| **x** | **f(x)** |
|---|---|
| -2 | 4 |
| 0 | 0 |
| 3 | -6 |
| 4 | -8 |

7.) (2.5 pts each, 5 pts total) (5-5) Is each of the following equations an example of direct variation? If so, find the constant of variation.

a) $-3x + 4y = 0$

b) $y + 5 = 2x$

8.) (5 pts each, 10 pts total) (5-5) Each of the following ordered pairs are examples of direct variation. Find each missing value.

a) (3, 8) and (x, 20)

b) (4, y) and (12, -9)

9.) (5 pts each, 15 pts total) (5-6) Find the fifth, tenth, and hundredth terms of each sequence.

a) 6, 14, 22, 30,...

b) 12, 5, -2, -9,...

c) -18, -23, -28, -33