

1. Use this function:

$$k(w) = 6 - 10w$$

$$f(x) = y$$

a) Find w if $k(w) = 51$

$$51 = 6 - 10w$$

$$45 = -10w$$

$$w = -4.5$$

b) Find the Range for this Domain: $\{-2, 0, 1, 2\}$

$$k(-2) = 26$$

$$k(-2) = 6 - 10(-2) = 26$$

$$(-2, 26)$$

$$k(0) = 6 - 0 = 6$$

$$(0, 6)$$

$$k(1) = 6 - 10(1) = -4$$

$$k(2) = 6 - 10(2) = -14$$

$$(2, -14)$$

3. Write a function rule for each table of values.

a)

X	Y
-5	21.5
-2	8.6
4	-17.2
6	-25.8
9	-38.7

$$y = mx + b$$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$y = -4.3x$$

X	Y
-16	-75
-12	-58
0	-7
4	10
20	78

$$y = mx - 7$$

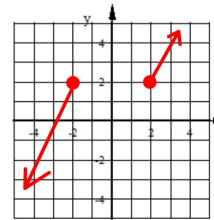
$$y = 4.25x - 7$$

$$10 = m(4) - 7$$

$$17 = 4m$$

$$m = 4.25$$

2. State the Domain and Range of this graph:



$$D: x \leq -2 \text{ or } x \geq 2$$

$$R: \mathbb{R}$$

$$(-\infty, \infty)$$

Section 5-5: Direct Variation

Direct Variation is a special Linear Function.

• It has a constant ratio $\frac{Y}{X} = k$

k = the Variation Constant

• Direct Variation Equation:

$$\frac{Y}{X} = k \quad \text{or} \quad y = kx$$

Graph of direct variation

- The graph must be a **line** that passes through **the origin**.

$\frac{y}{x}$ is a CONSTANT RATIO

4. Does each table represent Direct Variation?

If yes, state the variation constant and write a Direct Variation Equation.

a)

X	Y
-9	-28.35
-6	-18.9
-4	-12.6
5	15.75
14	44.1

Direct Variation?

If Yes, $k =$

If yes, EQ:

yes
 3.15
 $y = 3.15x$

b)

X	Y
13	3
15	2
17	25
19	22
21	19

Direct Variation?

If Yes, $k =$

If yes, EQ:

NO