

1. Create a table using  $f(x) = x^2 + 5$  for the domain of  $\{-3, -2, 0, 2, 3\}$

$$f(-3) = (-3)^2 + 5 = 14$$

$$f(-2) = (-2)^2 + 5 = 9$$

$$f(0) = (0)^2 + 5 = 5$$

$$f(2) = (2)^2 + 5 = 9$$

$$f(3) = (3)^2 + 5 = 14$$

x	y
-3	14
-2	9
0	5
2	9
3	14

2. Find the slope from the 2 points:

a)  $(-9, 3)$  &  $(-2, 3)$   $m = 0$

b)  $(14, 6)$  &  $(2, -6)$

c)  $(-5, -8)$  &  $(-5, -4)$

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

a) y-values  $\rightarrow$  SAME

b)  $\frac{-6 - 6}{2 - 14} = \frac{-12}{-12} = 1$   $m = 1$

c) x-values  $\rightarrow$  SAME  
 $m = \emptyset$

3. Translate to an equation and solve:

Find 3 consecutive integers whose sum is -72.

$$x = 1^{\text{st}} \# -25$$

$$x + 1 = 2^{\text{nd}} \# -24$$

$$x + 2 = 3^{\text{rd}} \# -23$$

$$3x + \cancel{3} = -72$$

$$\frac{3x}{3} = \frac{-75}{3}$$

$$x = -25$$

#1

## Finding slope from a TABLE

(FROM WS 51)

Find the  
difference  
between  
each Y-value  
and between  
each X-value

X	Y
-2	3
-1	5
0	7
1	9
2	11
4	15
9	25

$m = \frac{2}{1} = 2$

$\frac{10}{5} = 2$

$\frac{4}{2} = 2$

$\frac{2}{1} = 2$

#2

## Finding slope from a TABLE

(FROM WS 51)

Find the  
difference  
between  
each Y-value  
and between  
each X-value

X	Y
-3	5
-2	2
-1	-1
0	-4
1	-7

$$m = \frac{-3}{1} = -3$$

+1 < -3  
+1 < -3  
+1 < -3  
+1 < -3  
+1 < -3

#8

## Finding slope from a TABLE

(FROM WS 51)

Find the  
difference  
between  
each Y-value  
and between  
each X-value

X	Y
-1	1
1	2
3	3
5	4
7	5

$$m = \frac{1}{2}$$

#9

## Finding slope from a TABLE

(FROM WS 51)

Find the  
difference  
between  
each Y-value  
and between  
each X-value

X	Y
-5	10
-2	5
1	0
4	-5
7	-10
16	-25

Handwritten calculations and slope values:

- Between X values:  $+3$  (between -5 and -2),  $+3$  (between -2 and 1),  $+3$  (between 1 and 4),  $+3$  (between 4 and 7),  $+9$  (between 7 and 16).
- Between Y values:  $-5$  (between 10 and 5),  $-5$  (between 5 and 0),  $-5$  (between 0 and -5),  $-5$  (between -5 and -10),  $-15$  (between -10 and -25).
- Slope calculations:
  - $m = -\frac{5}{3}$  (from  $\Delta Y = -5$  and  $\Delta X = 3$ )
  - $-\frac{15}{9} = -\frac{5}{3}$  (from  $\Delta Y = -15$  and  $\Delta X = 9$ )

# **Slope- Intercept Form**

$$y = mx + b$$

**m = slope**



**b = y-intercept**



**\*where the equation  
crosses the y-axis**

# Slope and Y-intercept from an EQUATION

(From Slope Practice #30)

1.  $y = -2x - 4$      $m = \underline{-2}$      $b = \underline{-4}$

5.  $\cancel{4x} + y = 3$      $m = \underline{-4}$      $b = \underline{3}$   
 $\begin{array}{r} -4x \quad -4x \\ \hline y = -4x + 3 \end{array}$

6.  $x = \cancel{-y} - 4$      $m = \underline{-1}$      $b = \underline{-4}$   
 $\begin{array}{r} +y \quad +y \\ \hline x + y = -4 \\ \cancel{-x} \quad -x \\ \hline y = -x - 4 \end{array}$

## Slope and Y-intercept from an EQUATION

(From Slope Practice #30)

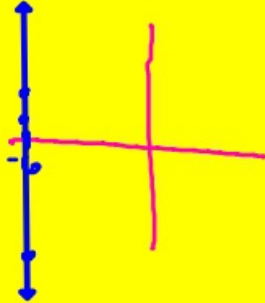
7.  $x = -6$

$m =$

$\emptyset$

$b =$

$\emptyset$



$(-6, 1)$

$(-6, 2)$

$(-6, -8)$

9.  $10x + 5y = 25$

$m =$

$-2$

$b =$

$5$

$$\begin{array}{r} -10x \quad -10x \\ \hline 5y = -10x + 25 \\ \frac{5}{5} \quad \frac{-10x}{5} \quad \frac{25}{5} \\ y = -2x + 5 \end{array}$$

11.  $x - 2y = 3$

$m =$

$\frac{1}{2}$

$b =$

$-\frac{3}{2}$

$$\begin{array}{r} -x \quad -x \\ \hline -2y = -x + 3 \\ \frac{-2}{-2} \quad \frac{-x}{-2} \quad \frac{3}{-2} \\ y = \frac{1}{2}x - \frac{3}{2} \end{array}$$

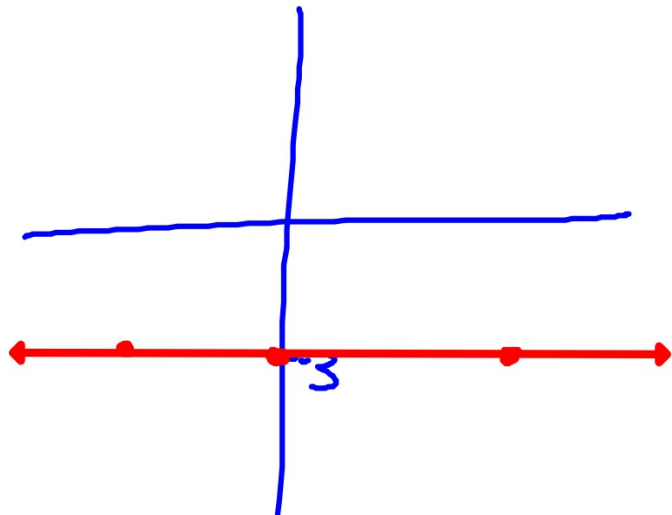
$$y = -3$$

$$m = \underline{0} \quad b = \underline{-3}$$

$$(-4, -3)$$

$$(5, -3)$$

$$(0, -3)$$



⑮

$$\begin{array}{r} \cancel{x} + 7y = 9 \\ \cancel{-x} \qquad \qquad \quad \cancel{-x} \\ \hline \end{array}$$

$$\begin{array}{r} 7y = -\cancel{x} + 9 \\ \cancel{7} \qquad \qquad \quad 7 \qquad 7 \end{array}$$

$$y = -\frac{1}{7}x + \frac{9}{7}$$