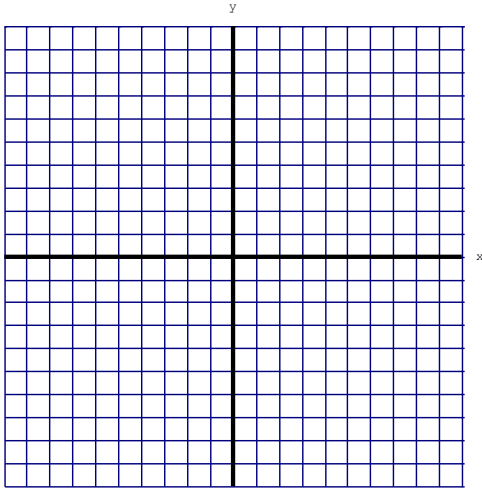


## Writing Linear Equations from Two Ordered Pairs Notes

**Objective:** Find the slope of the line by plotting both points. Then understand how to use slope-intercept form to find the y-intercept.

1.  $(4, -2)$   $(-4, -4)$

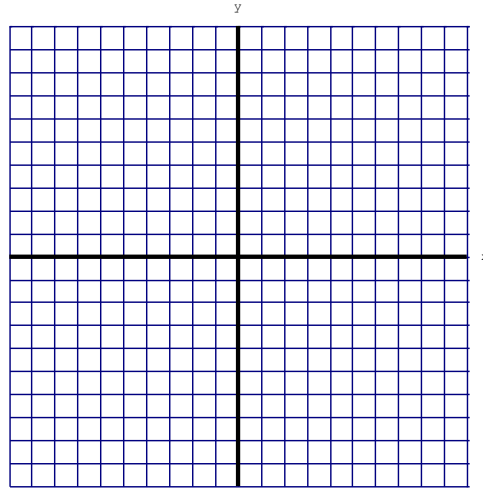


$m =$  \_\_\_\_\_

$y - \text{int} =$  \_\_\_\_\_

slope - int. form: \_\_\_\_\_

2.  $(-4, -2)$   $(-3, 5)$



$m =$  \_\_\_\_\_

$y - \text{int} =$  \_\_\_\_\_

slope - int. form: \_\_\_\_\_

1. Find slope from formula or from graph.  $\frac{5 - (-2)}{-3 - (-4)} = \frac{7}{1} = 7$

2. Use the slope and ONE of the ordered pairs, along with the slope-int. form to find b.

$y = mx + b$

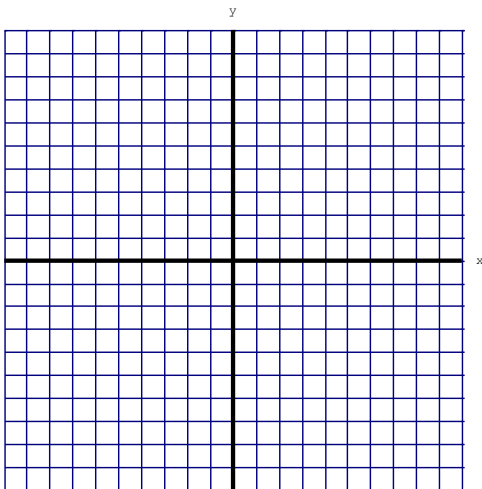
Use  $m = 7$  and  $(-3, 5)$

$5 = (7)(-3) + b$

$5 = (-21) + b$

$26 = b$

3.  $(-5, -1)$   $(1, -4)$

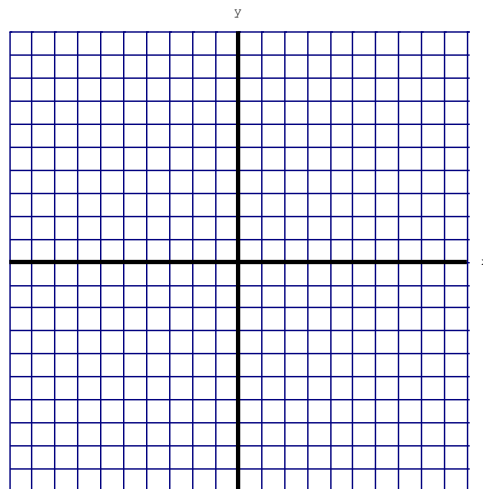


$m =$  \_\_\_\_\_

$y - \text{int} =$  \_\_\_\_\_

slope - int. form: \_\_\_\_\_

4.  $(2, 1)$   $(2, 5)$



$m =$  \_\_\_\_\_

$y - \text{int} =$  \_\_\_\_\_

slope - int. form: \_\_\_\_\_

Write an equation in slope intercept form:

1. Find the \_\_\_\_\_ first by using the formula \_\_\_\_\_.
  2. Fill in the \_\_\_\_\_, also known as letter \_\_\_\_\_
  3. Choose one of the \_\_\_\_\_ and substitute in values for \_\_\_\_ and \_\_\_\_\_.
  4. Solve for \_\_\_\_\_.
  5. Write the equation using the \_\_\_\_\_ and the \_\_\_\_\_.
5.  $(-2, -2)$   $(2, -5)$                       6.  $(-9, 9)$   $(4, 5)$

7.  $(3, 3)$   $(1, -5)$

8.  $(-2, -3)$   $(-5, -4)$

9.  $(-3, 4)$   $(-2, -6)$

10.  $(\frac{1}{2}, 0)$   $(\frac{7}{2}, -5)$

Write an equation in slope intercept form from a table:

1<sup>st</sup>: find the slope

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

m = \_\_\_\_\_

2<sup>nd</sup>: find the y-intercept

Example:

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

y- intercept

b = \_\_\_\_\_

The y-intercept is when x = \_\_\_\_\_

Example:

x	y
-2	4
-1	3.5
0	3
1	2.5
2	2

y- intercept

b = \_\_\_\_\_

### What should you do if 0 is not in the table?

x	y
1	11
2	15
3	19
4	23
5	27

m = \_\_\_\_\_

b = \_\_\_\_\_

#### Use the substitution method

1. Find the **slope**  $m =$  \_\_\_\_\_
2. Fill in the m (slope) into  $y = m x + b$   $y =$  \_\_\_  $x + b$
3. Choose an ordered pair, then substitute in the x and y... now you have to **solve for b** (y- intercept), so get your b alone.

3<sup>rd</sup>: put it all together

x	y
-1	-6
0	-4
1	-2
2	0
3	2

Write a linear equation for the tables shown.  $y = m x + b$

1. Find the m **slope**
2. Find the b **y- intercept**
3. Plug the m and b into your slope intercept form....  $y = m x + b$   
Plug in the m and b  $y =$  \_\_\_\_\_  $x +$  \_\_\_\_\_

Equation \_\_\_\_\_

Write an equation in slope-intercept form from a table.

11.

Weeks After Planting, $x$	Height (in.), $y$
0	8
1	11
2	14
3	17

12.

Time (min), $x$	5	20	30	35
Elevation (ft), $y$	4	10	14	16

13.

$x$	$y$
2	5
4	13
7	25
9	33
12	45

14.

$x$	$y$
-3	10
-1	4
1	-2
3	-8

Put the equations in slope-intercept form, then in standard form:

15.  $y - 3 = 4(x + 2)$

16.  $y + 5 = \frac{2}{3}(x - 12)$

slope-intercepts form: \_\_\_\_\_

Slope-intercepts form: \_\_\_\_\_

standard form: \_\_\_\_\_

standard form: \_\_\_\_\_