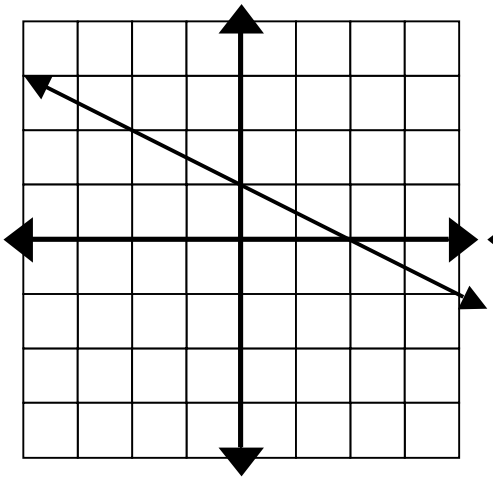
**Slope-Intercept Form Worksheet-_ Name: _____**
**Review - Unit 3 lessons 5 & 6**

**1)** ***Find the slope of the line through each pair of points.***

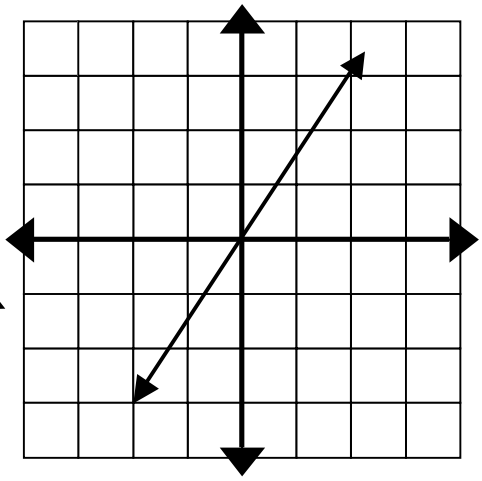
$$Slope = \frac{y_2 - y_1}{x_2 - x_1}$$

**a. (8, -7) and (5, -3).** **b. (-5, 9) and (5, 11).** **c. (-8, -4) and (-4, -9).**

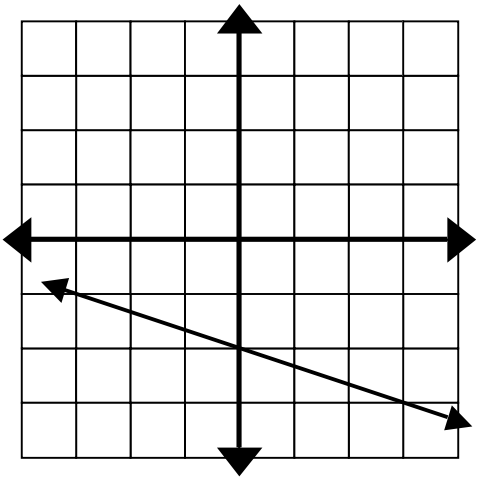
***2) For each graph: Write the equation of the line in SLOPE-INTERCEPT FORM***



**m = _____b =_____**

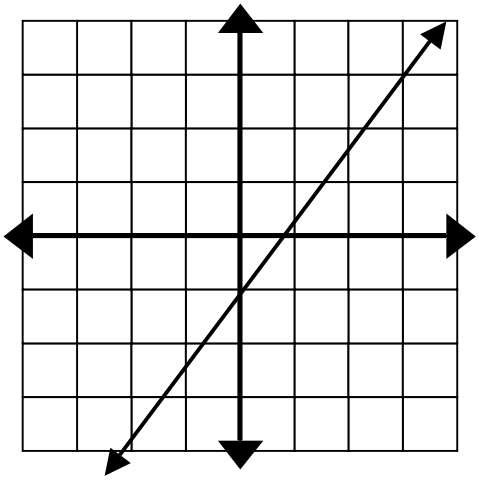


**m = _____b = _____**

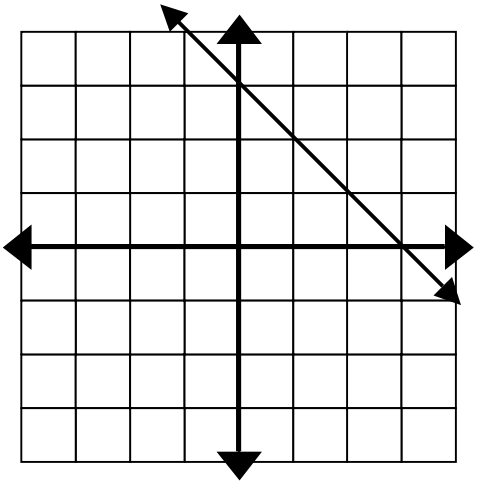


**m = _____b =_____**

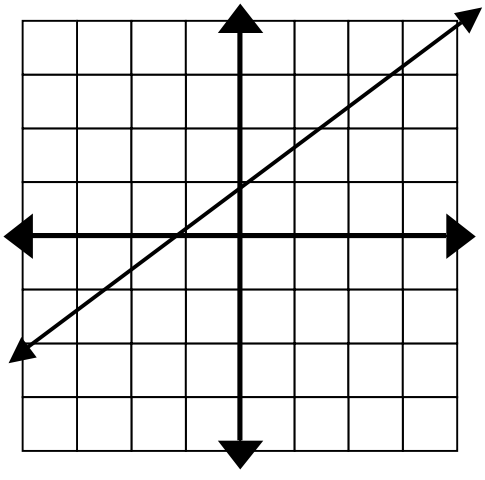
_____ _____ _____



**m= _____ b =_____**



**m = _____b=_____**



**m = _____b =_____**

_____ _____ _____

*3) In each linear equation, identify the slope (m) and the y-intercept (b)*

**a.** $y = 4x - 5$

**m = _____b =_____**

**b.** $y = \frac{2}{3} - x$

**m= _____b =_____**

**c.** $y = \frac{5}{2}x - \frac{19}{8}$

**m=_____b=_____**

**d.** $y = 11 + \frac{2}{3}x$

**m = _____b = _____**

**e.** $2x + y = 8$

**m=_____b = _____**

**f.** $y - 4x = -2$

**m = _____b =_____**

*4) Find the equation of the line in slope-intercept form (y = mx + b)*

**a. m = 2 and b = - 7**

**b. b = 4 and m = -5**

**c. m = -5 and b = 0**

**d. m = 4/5 and b = -2**

**5) <u>Graph the line for each equation</u>:**

**5a)** $y = \frac{3}{4}x - 3$

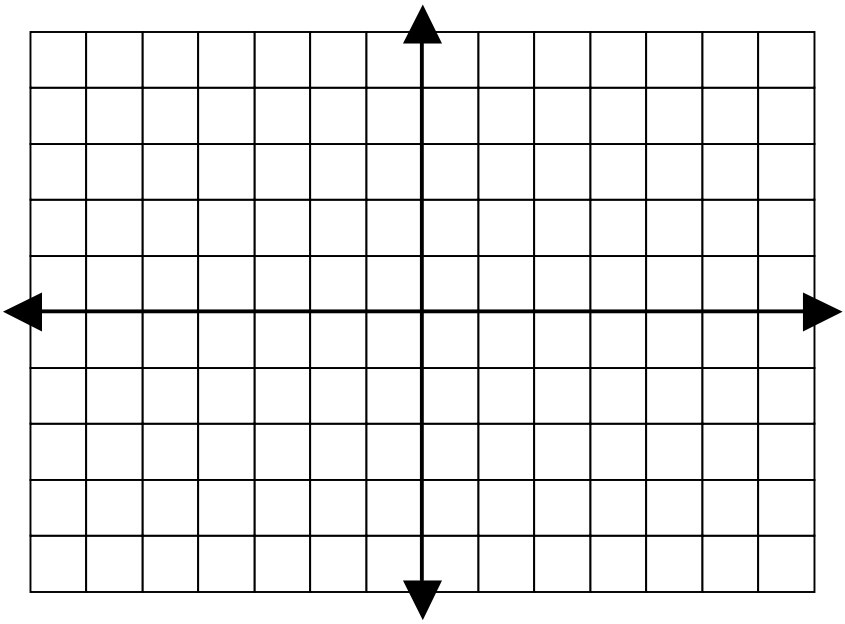
**Slope =** **Y-Intercept =**

**5b)** $y = 4 - \frac{5}{3}x$

**Slope =** **Y-Intercept =**

**5c)** $2x + y = -2$

**Slope =** **Y-Intercept =**



**6. Sara rented a car for x amount of days. The linear equation below represents y, the total cost of Sara renting a car.**

$$y = 17x + 130$$

a. **What is the slope of the line represented by this equation?**

b. **Explain what the slope tells you about renting a car.**

c. **What is the y-intercept of the line represented by this equation?**

d. **Explain what the y-intercept tells us about Sara's rental.**

e. **If Sara rents a car for 9 days, how much will it cost her? Show how you got your answer.**

**17. The slope of a line is $\frac{3}{2}$ and the line contains the points (5, 9) and (3, a). What is the value of a?**

**18. The slope of a line is -2 and the line contains the points (7 ,4) and (x, 12). What is the value of x?**

**KEY:**

Slope-Intercept Form Worksheet- Review - Unit 3 lessons 5 & 6

Name: KEY

1) *Find the slope of the line through each pair of points.*

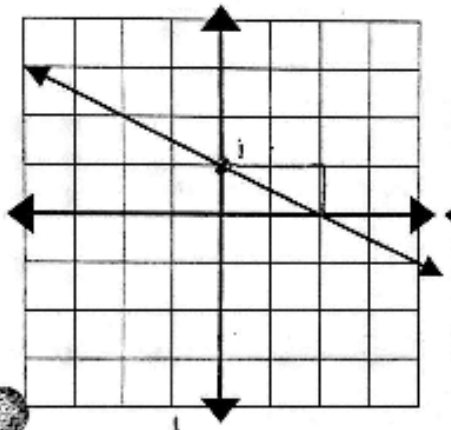
$$Slope = \frac{y_2 - y_1}{x_2 - x_1}$$

a. (8, -7) and (5, -3). $\frac{-3+7}{5-8} = \frac{4}{-3} = \frac{-4}{3}$

b. (-5, 9) and (5, 11). $\frac{11-9}{5+5} = \frac{2}{10} = \frac{1}{5}$

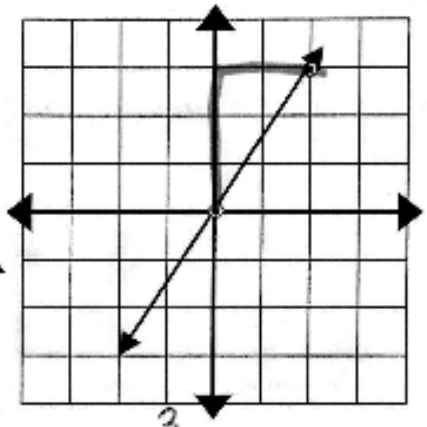
c. (-8, -4) and (-4, -9). $\frac{-9+4}{-4+8} = \frac{-5}{4}$

2) *For each graph: Write the equation of the line in SLOPE-INTERCEPT FORM*



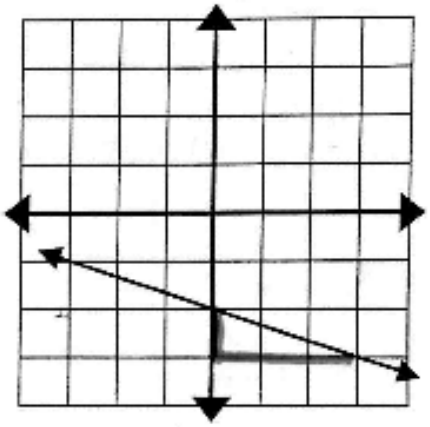
m = $-\frac{1}{2}$ b = 1

$y = -\frac{1}{2}x + 1$



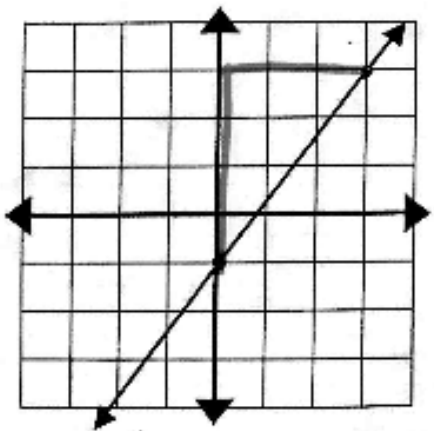
m = $\frac{3}{2}$ b = 0

$y = \frac{3}{2}x$



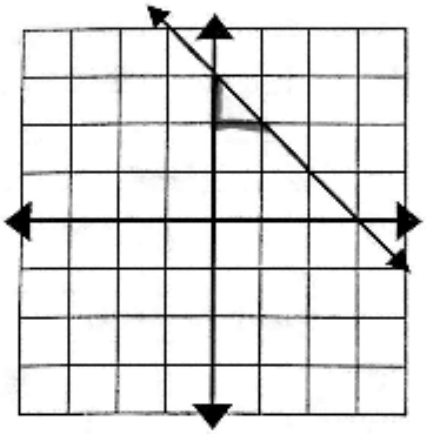
m = $\frac{-1}{3}$ b = -2

$y = -\frac{1}{3}x - 2$



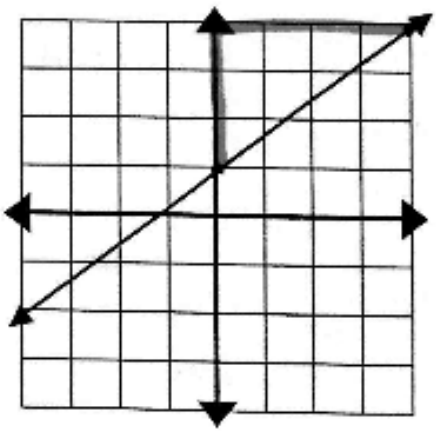
m = $\frac{4}{3}$ b = -1

$y = \frac{4}{3}x - 1$



m = -1 b = 3

$y = -1x + 3$



m = $\frac{3}{4}$ b = 1

$y = \frac{3}{4}x + 1$

*3) In each linear equation, identify the slope (m) and the y-intercept (b)*

a. $y = 4x - 5$

m = 4 b = -5

b. $y = \frac{2}{3} - x$ $y = -1x + \frac{2}{3}$

m = -1 b = $\frac{2}{3}$

c. $y = \frac{5}{2}x - \frac{19}{8}$

m = $\frac{5}{2}$ b = $-\frac{19}{8}$

d. $y = 11 + \frac{2}{3}x$ $y = \frac{2}{3}x + 11$

m = $\frac{2}{3}$ b = 11

e. $2x + y = 8$ $y = -2x + 8$

$-2x$ $-2x$

m = -2 b = 8

f. $y - 4x = -2$ $y = 4x - 2$

$+4x$ $+4x$

m = 4 b = -2

*4) Find the equation of the line in slope-intercept form (y = mx + b)*

a. m = 2 and b = - 7

$y = 2x - 7$

b. b = 4 and m = -5

$y = -5x + 4$

c. m = -5 and b = 0

$y = -5x$

d. m = 4/5 and b = -2

$y = \frac{4}{5}x - 2$

5) Graph the line for each equation:

**5a)** $y = \frac{3}{4}x - 3$

Slope = $\frac{3}{4}$ Y-Intercept = -3

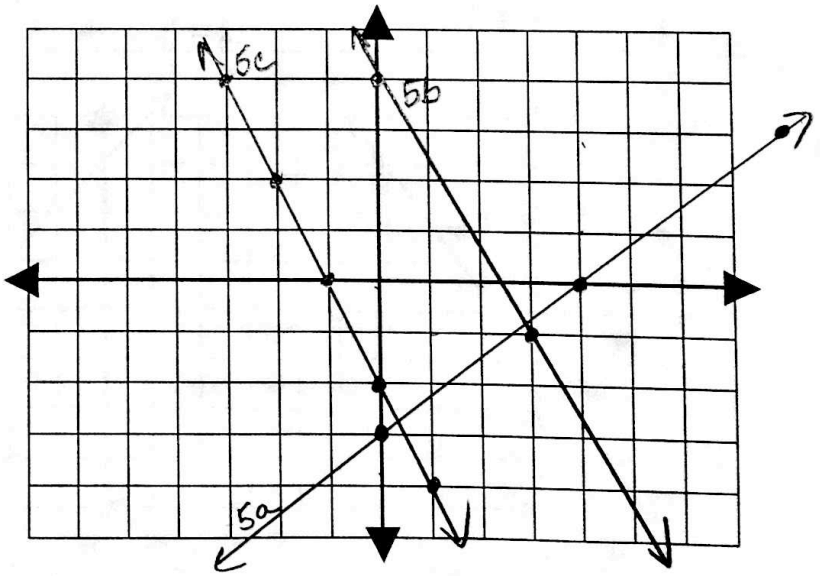
**5b)** $y = 4 - \frac{5}{3}x$

Slope = $-\frac{5}{3}$ $\frac{\downarrow 5}{\rightarrow 3}$ Y-Intercept = 4

**5c)** $2x + y = -2 \Rightarrow y = -2x - 2$

$-2x$ $-2x$

Slope = $\frac{-2}{1}$ $\frac{\downarrow 2}{\rightarrow 1}$ Y-Intercept = -2



ara rented a car for x amount of days. The linear equation below represents y, the total cost of Sara nting a car.

$$y = 17x + 130$$

a. What is the slope of the line represented by this equation?

17

b. Explain what the slope tells you about renting a car.

The cost per day to rent the car

c. What is the y-intercept of the line represented by this equation?

130

d. Explain what the y-intercept tells us about Sara's rental.

The initial cost of the car rental before you have it for any time.

e. If Sara rents a car for 9 days, how much will it cost her? Show how you got your answer.

$y = 17(9) + 130$
$y = 153 + 130 = 283$

IT WILL COST SARA $283 TO RENT THE CAR FOR 9 DAYS

7. The slope of a line is $\frac{3}{2}$ and the line contains the points (5, 9) and (3, a). What is the value of a?

Use $\frac{y_2 - y_1}{x_2 - x_1}$ $\quad \frac{a-9}{3-5} = \frac{a-9}{-2}$ so $\frac{a-9}{-2} = \frac{3}{2}$

$\frac{a-9}{-2} = \frac{-3}{-3}$

so
$a - 9 = -3$
$+9 \quad +9$
$a = 6$

8. The slope of a line is -2 and the line contains the points (7 ,4) and (x, 12). What is the value of x?

Use $\frac{y_2 - y_1}{x_2 - x_1}$ $\quad \frac{12-4}{x-7} = \frac{8}{x-7}$ so $\frac{8}{x-7} = \frac{-2}{1}$

so $x - 7$ has to $= -4$
because $\frac{8}{-4} = -2$

$x - 7 = -4$
$+7 \quad +7$
$x = 3$