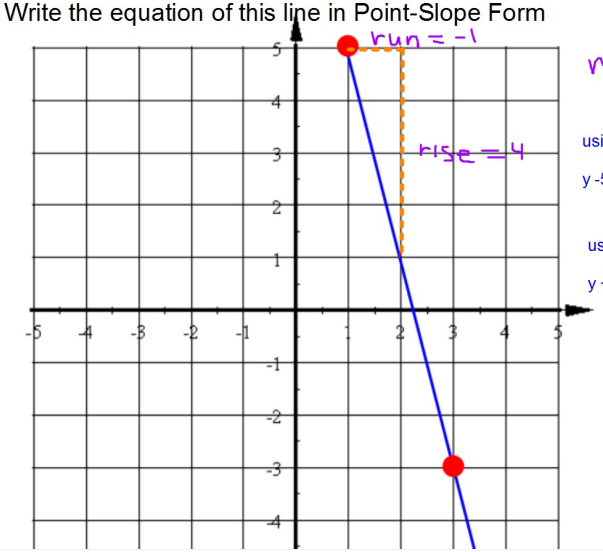
Write the equation of this line in Point-Slope Form



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

using (1, 5) equation is:

$y - 5 = -4(x - 1)$

using (3, -1) the equation is:

$y + 1 = -4(x - 3)$

Use this equation: $y - 9 = 4(x + 11)$

What is the slope of this line? 4

What point was used to write this equation? $(-11, 9)$

$y - y_1 = m(x - x_1)$

$-x_1$ becomes $+11$ if x_1 is neg

$y - 9 = 4(x + 11)$

Use this equation: $y + 11 = -(x - 6)$

$y - y_1 \quad x - x_1$

What is the slope of this line? -1

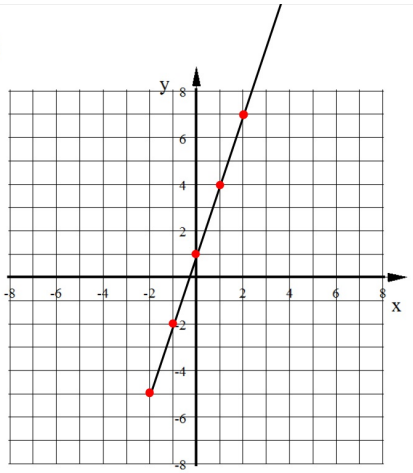
What point was used to write this equation? $(6, -11)$

How can you graph this line? $y + 5 = 3(x + 2)$

What is the slope of this line? $\frac{3}{1}$

What point was used to write this equation? $(-2, -5)$

Plot the point (-2, -5) then use the slope to find other points.



You can now finish Hwk #20

Due Thursday

Pages 307-308

Problems 11-14, 21, 22, 37, 38, 40

For #'s 21, 22, 40 write the equation in Point-Slope Form only

$y + 5 = 3(x + 2)$

What is another way to graph the line?

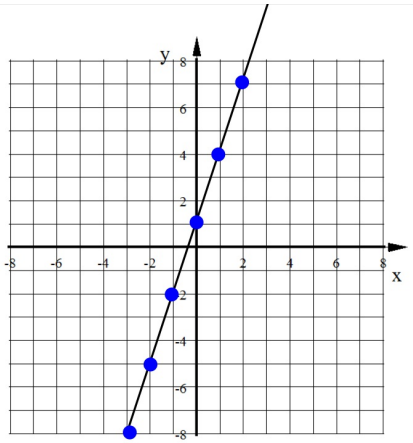
Change this equation into Slope-Intercept Form

$y = mx + b$

$y + 5 = 3x + 6$

$-5 \quad\quad -5$

$y = 3x + 1$



plot the y-intercept of 1 then use the slope to find other points.

Sec 6-2: Slope-Intercept Form for the equation of a line.

$y = mx + b$

slope — Y-intercept

Find the slope and the y-intercept of each equation.

1. $y = -5 + 2x$

   Slope: 2

   y-int: -5

2. $y = -7x$

   Slope: -7

   y-int: 0

3. $y = 8$

   Slope: 0

   y-int: 8

4. $3x + 6y = 24 - 3x$

   $-3x \quad\quad -3x$

   Slope: $-\frac{1}{2}$

   y-int: 4

   $\frac{6y}{6} = \frac{24 - 3x}{6}$ $\quad y = 4 - \frac{1}{2}x$

Change to slope-intercept form:
- subtract 3x from both sides
- divide both sides b 6

5. $y - 6 = -3(x + 1) = -3x - 3$

   $+6 \quad\quad +6$

   Slope: -3

   y-int: $+3$

   $y = -3x + 3$

Change to slope-intercept form:
- distribute the slope
- add 6 to both sides

Writing the equation of a line in Slope-Intercept Form:

Write the equation of the line that passes through these two points in Slope-Intercept Form

(2, 1) and (-3, 21)

$$\frac{21-1}{-3-2} = \frac{20}{-5} = -4$$

Method 1:

First: Find the slope.

Second: Write the equation in Point-Slope Form

$$y - 1 = -4(x - 2)$$

Third: Change Point-Slope into Slope-Intercept

$$y - 1 = -4x + 8$$
$$+1 \quad +1$$

$$y = -4x + 9$$