

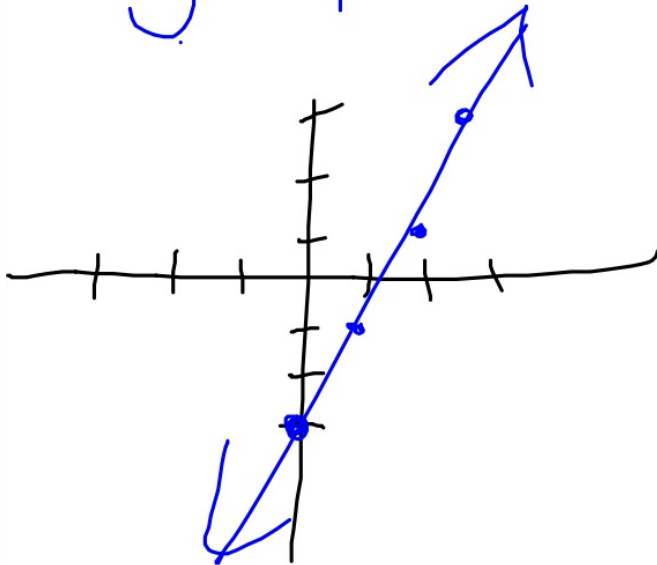
Geometry BELL WORK

$$y = mx + b$$

Write an equation in slope-intercept form of the line having the given slope and y-intercept or given points. Then graph the line.

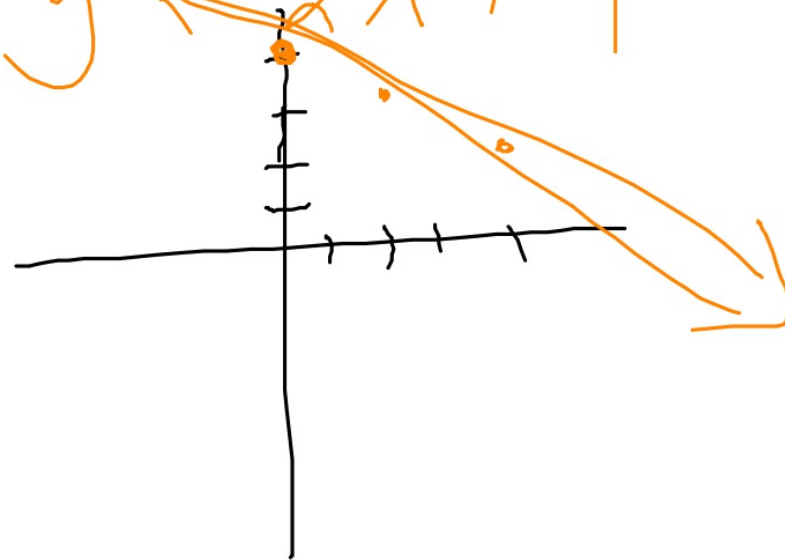
1. $m: 2, b: -3$

$$y = \underline{2}x - 3$$



2. $m: -\frac{1}{2}, b: 4$

$$y = -\frac{1}{2}x + 4$$



3-4 Equations of Lines

We found the slopes of lines and looked at the relationship between parallel and perpendicular slopes.

Today we will:

- * Write the equation of a line given information about the graph
- * Solve problems by writing equations

Two forms of linear equations:

The **slope-intercept form** of a linear equation is

$$y = mx + b$$

where m is the slope of the line and b is the y -intercept.

The **point-slope form** of a linear equation is

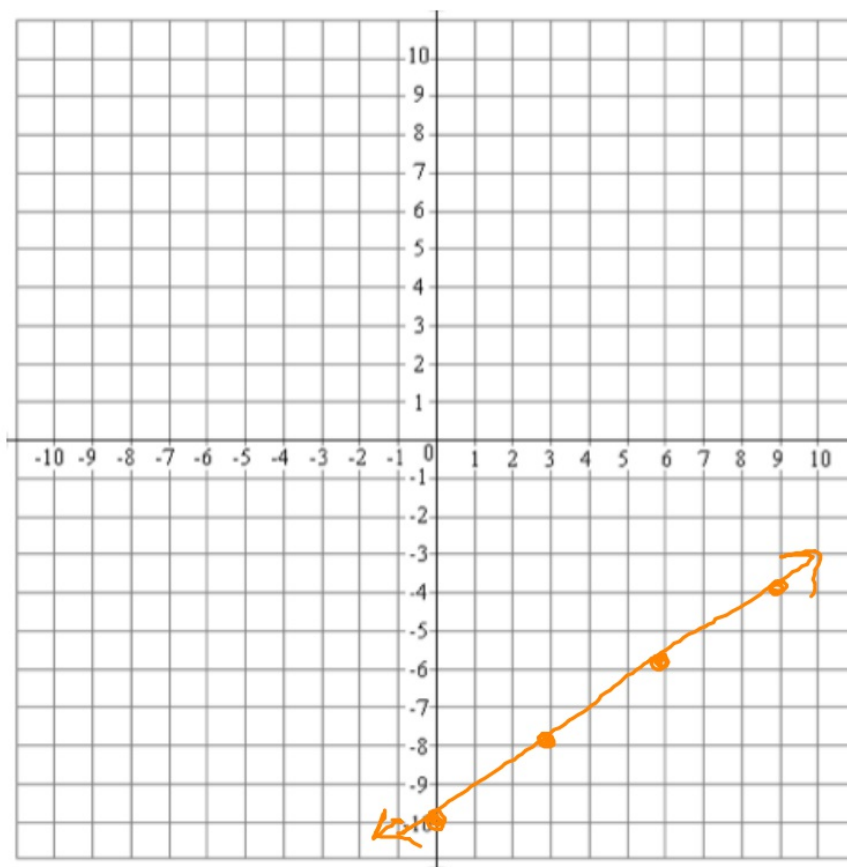
$$y - y_1 = m(x - x_1)$$

where (x_1, y_1) is any point on the line and m is the slope of the line.

Write the equation of a line with the following conditions, then graph the line.

$$m: \frac{2}{3}, b: -10$$

$$y = \frac{2}{3}x - 10$$



Write the equation of a line with the following conditions, then graph the line.

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

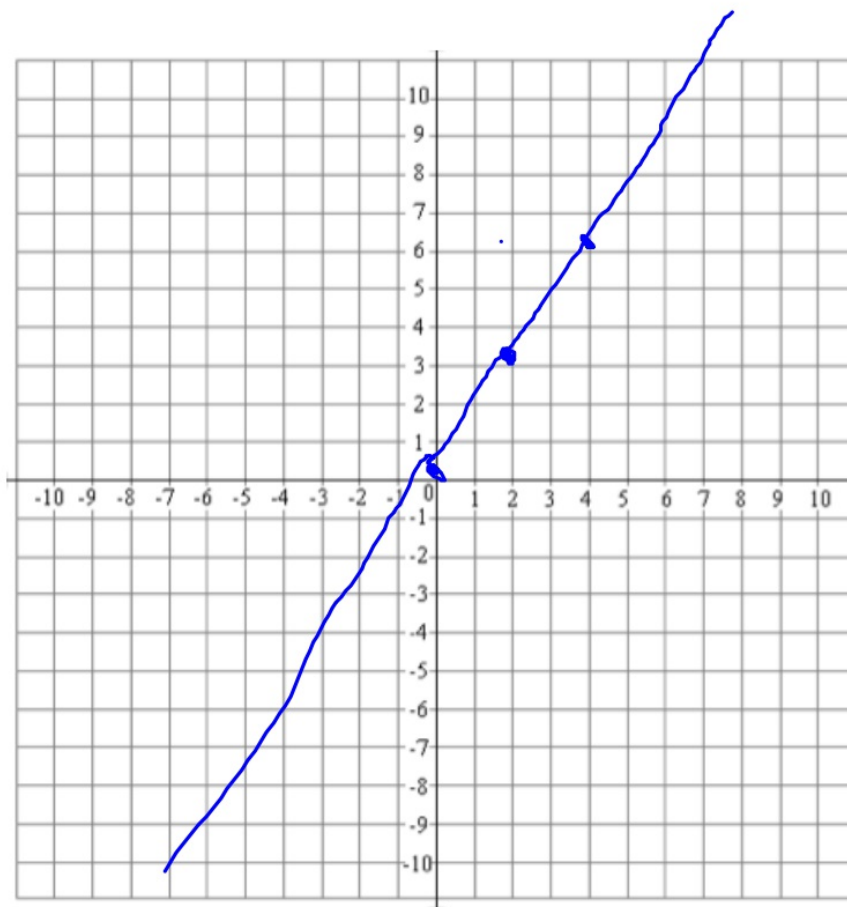
$$m: \frac{3}{2}, (4, 6)$$

x₁, y₁

$$y - 6 = \frac{3}{2}(x - 4)$$

$$y - 6 = \frac{3}{2}x - 6$$

$$y = \frac{3}{2}x + 0$$



$$\frac{3}{2} \times \frac{4}{1} = \frac{12}{2} = 6$$

Assignment:

3.4 pg 200-201 # 19-21, 37-40