Today's Plan:

Learning Target (standard): I will describe the slope of a line as a rate of change. I will graph linear equations using the slope-intercept method.

Students will: Complete practice problems over previous concepts at the boards, put up homework problems on the board and make necessary corrections to their own work, take notes over new material and complete practice problems over new concepts.

Teacher will: Provide practice problems over previous concepts, check homework problems for accuracy and provide students feedback, describe and provide examples of new concepts and assign students assessment problems over new concepts.

Assessment: Board work, homework check and homework assignment

Differentiation: Students will work at the board, go over and correct homework at their seats, actively engage in lecture over new concepts, practice new concepts with the aid of other students and the teacher and complete homework assignment.

NAME _____   #40

BELL RINGER

$y = mx + b$

1.) Write the equation $3x + y = 12$ in slope-intercept form.

$-3x \quad -3x$

$y = -3x + 12$

0:00:00

2) Write the equation of the line that has a slope of 2 and I_y: (0,-3). Graph the resulting equation using the slope-intercept method.

$y = 2x - 3 \quad M = 2$

$M = \dfrac{rise}{run} = \dfrac{1}{2}$

3.) Solve $3x - 1 = 7x + 11$.

$-3x \quad -3x$

$-1 = 4x + 11$

$-11 \qquad -11$

$\dfrac{-12}{4} = \dfrac{4x}{4}$

$-3 = x$

$x = -3$
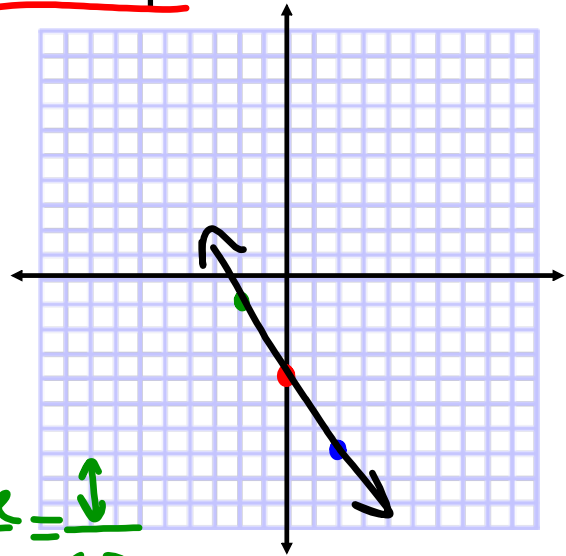
Graph using the <u>slope-intercept</u> method.

3) $3x + 2y = -8$

$-3x \qquad -3x$

$\dfrac{2y}{2} = \dfrac{-3x}{2} - \dfrac{8}{2}$

$\boxed{y = -\dfrac{3}{2}x - 4}$

$M = -\dfrac{3}{2} \searrow = \dfrac{rise}{run} = \dfrac{\updownarrow}{\leftrightarrow}$

$I_y : (0, -4)$

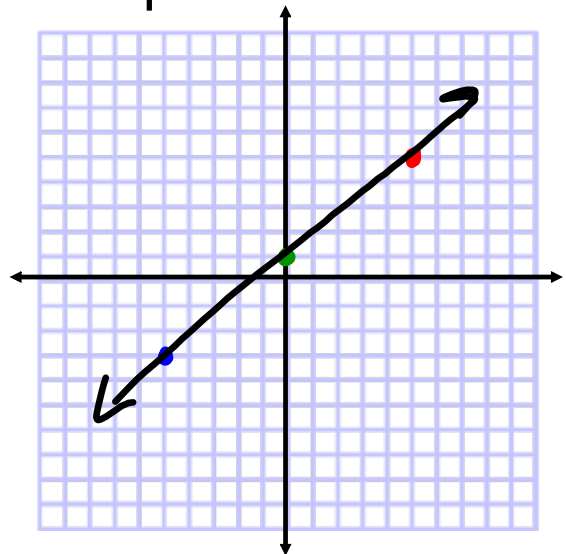Graph using the slope-intercept method.

6) $4x - 5y = -5$

$-4x \qquad -4x$

$\dfrac{-5y}{-5} = \dfrac{-4x}{-5} - \dfrac{5}{-5}$

$\boxed{y = \dfrac{4}{5}x + 1}$

$M = \dfrac{4}{5} \nearrow\hspace{-1.2em}\swarrow$

$I_y : (0, 1)$

State the independent and dependent variable. Find the rate of change. Use the 6 step process.

Games Played	Points Scored
3	1
6	2
9	3
12	4

① independent - games played
  dependent - points scored

② $RoC = \dfrac{\Delta \text{dependent}}{\Delta \text{independent}}$

③ $RoC = \dfrac{\Delta \text{points}}{\Delta \text{games}}$ ④ $RoC = \dfrac{4-1 \text{ points}}{12-3 \text{ games}}$

⑤ $RoC = \dfrac{3}{9} = \dfrac{1 \text{ points}}{3 \text{ games}}$

⑥ The team only scores 1 point in every 3 games.

Graph using the slope-intercept method.

$-4x + 6y = -6$
$+4x \qquad\qquad +4x$

$\dfrac{6y}{6} = \dfrac{4x}{6} - \dfrac{6}{6}$

$\boxed{y = \dfrac{2}{3}x - 1}$

$M = \dfrac{2}{3}$ — up/down
         — left/right

$I_y: (0, -1)$
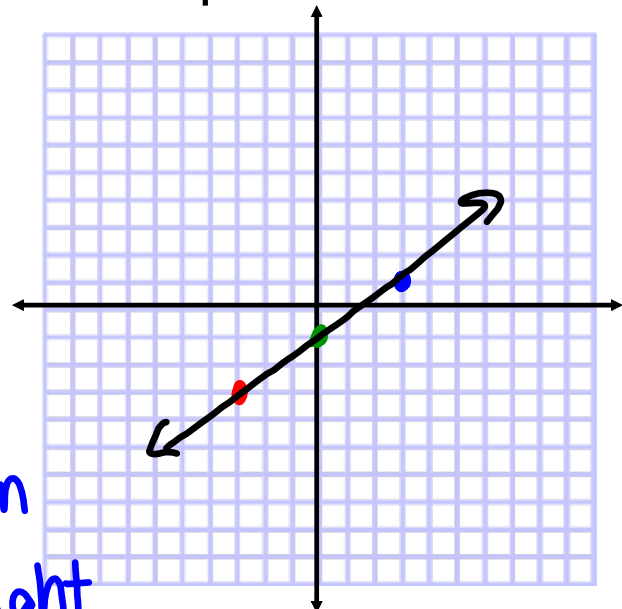
Find the slope of the line.

$M = \dfrac{Y_2 - Y_1}{X_2 - X_1} = \dfrac{\Delta y}{\Delta x}$

$= \dfrac{2 - 6}{7 + 6}$

$m = -\dfrac{4}{13}$

(-4, 6)

(7, 2)
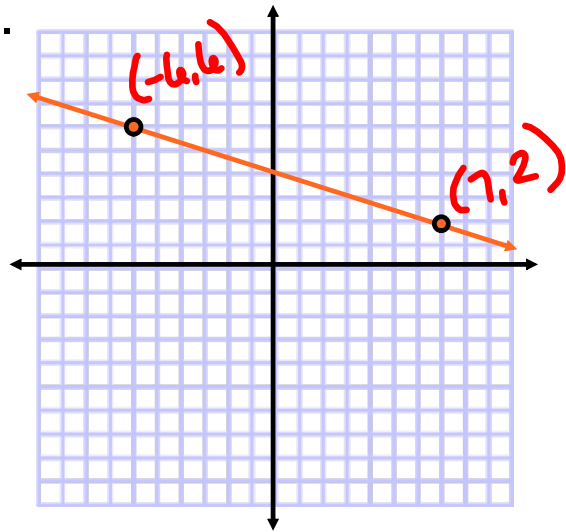
Graph using the slope-intercept method.

$5x + 2y = 8$

$-5x \qquad\qquad -5x$

$\dfrac{2}{2}y = -\dfrac{5}{2}x + \dfrac{8}{2}$

$y = -\dfrac{5}{2}x + 4$

$m = -\dfrac{5}{2}$

$\text{Iy}: (0, 4)$
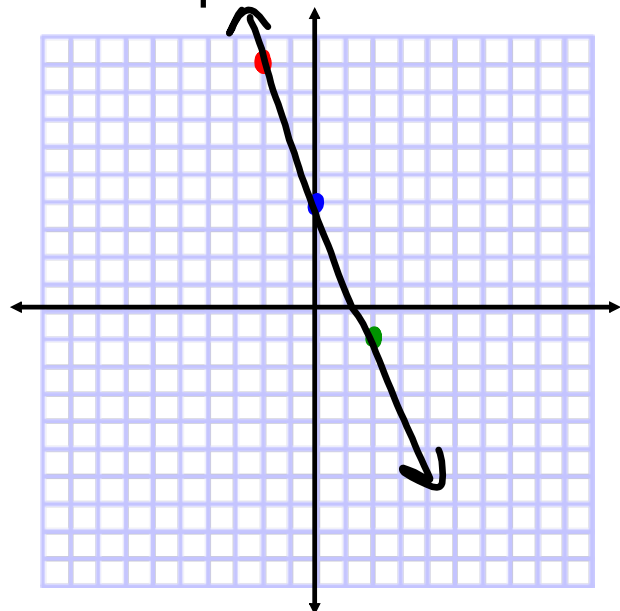
Each pair of points lies on a line with the given slope. Find the missing value.

$(-3, 4), (5, y)$

$m = 2$

$m = \dfrac{y_2 - y_1}{x_2 - x_1}$

$2 = \dfrac{y - 4}{5 + 3}$

$\dfrac{2}{1} = \dfrac{y - 4}{8}$

$16 = y - 4$

$y = 20$

Graph using the slope-intercept method.

$-5x + 3 = -7$

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

$\dfrac{-5x}{-5} = \dfrac{-10}{-5}$

$\boxed{X = 2}$ $\Delta x = 0$

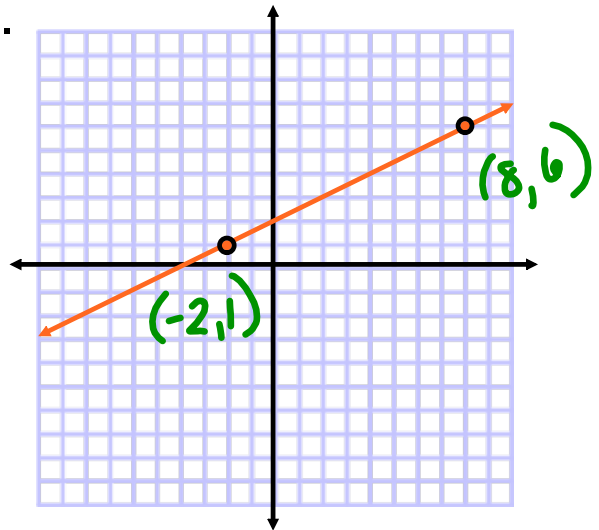$m = und$

$I_x : (2, 0)$ $m = \dfrac{\Delta y}{\Delta x}$
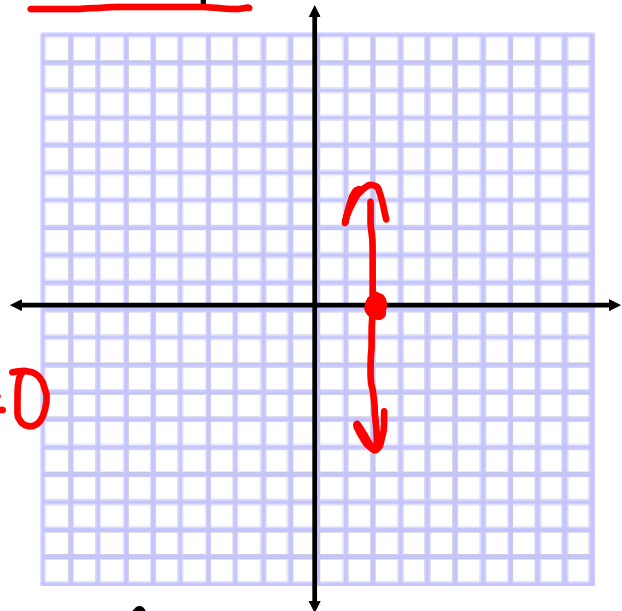
Find the slope of the line.

$$M = \frac{y_2 - y_1}{x_2 - x_1} = \frac{\Delta y}{\Delta x}$$

$$= \frac{6 - 1}{8 + 2}$$

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

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

$(8, 6)$

$(-2, 1)$

Each pair of points lies on a line with the given slope. Find the missing value.

$$(1, 5), (x, -4)$$

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

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

$$-\frac{3}{4} = \frac{-4 - 5}{x - 1}$$

$$-\frac{3}{4} = \frac{-9}{x - 1}$$

$$-3(x - 1) = -36$$

$$-3x + 3 = -36$$

$$-3x = -39$$

$$x = 13$$

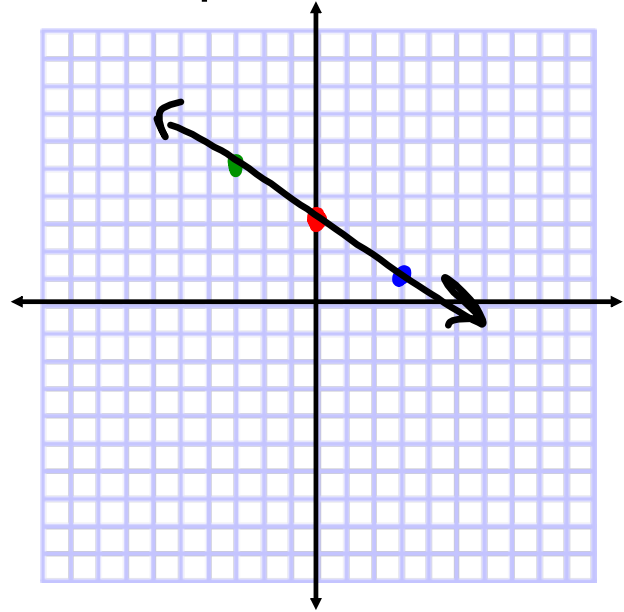## Graph using the slope-intercept method.

$$2x + 3y = 9$$
$$-2x \qquad -2x$$

$$\frac{3y}{3} = \frac{-2x}{3} + \frac{9}{3}$$

$$\boxed{y = -\frac{2}{3}x + 3}$$

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

$$I_y: (0,3)$$

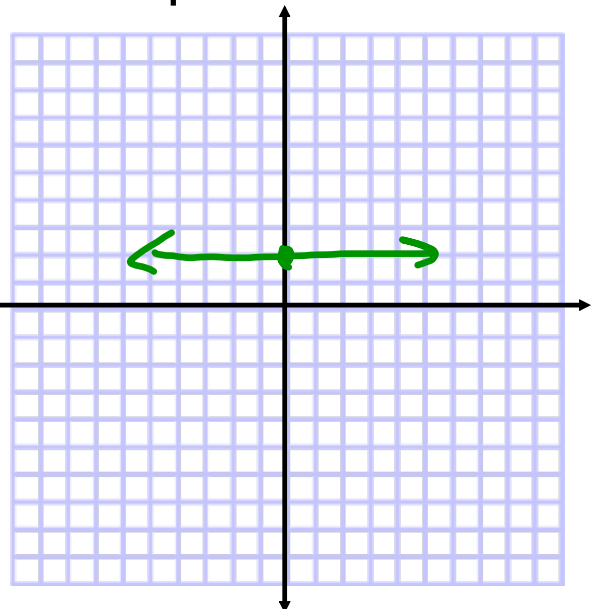## Graph using the slope-intercept method.

$$2y + 4 = 8$$
$$2y = 4$$
$$\boxed{y = 2} \qquad \Delta y = 0$$

$$m = 0$$

$$I_y: (0,2)$$

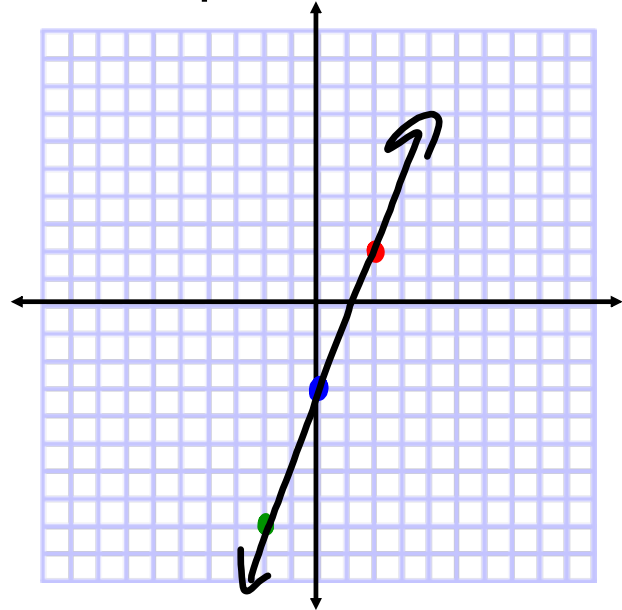$$m = \frac{\Delta y}{\Delta x}$$

Graph using the slope-intercept method.

$$-5x + 2y = -6$$
$$+5x \qquad +5x$$

$$\frac{2y}{2} = \frac{5x}{2} - \frac{6}{2}$$

$$y = \frac{5}{2}x - 3$$

$$m = \frac{5}{2} \nearrow \swarrow$$

$$I_y : (0, -3)$$

Assignment:

Graphing using Slope-Intercept 2

#1-10

* Write the slope and y-intercept *