

Today's Plan:

Learning Target (standard): I will write equations for lines in slope-intercept form and standard form.

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.

p.280 #4-60 (by 4)

$$4)m = -3$$

$$8)m = \frac{3}{2}$$

$$12)m = \frac{3}{5}$$

$$16)m = 1$$

$$20)m = \text{und}$$

$$24)m = 0$$

$$28)I_x : (2,0)$$

$$I_y : (0,-4)$$

$$32)I_x : (3,0)$$

$$I_y : \left(0, -\frac{9}{5}\right)$$

$$36)I_x : \left(-\frac{5}{3}, 0\right)$$

$$I_y : (0,-5)$$

$$40)I_x : \left(\frac{3}{2}, 0\right)$$

$$I_y : (0,-2)$$

$$44)m = -\frac{1}{2}; I_y : (0,2)$$

$$48)m = \frac{2}{3}; I_y : (0,-2)$$

$$52)m = \frac{4}{5}; I_y : (0,-1)$$

$$56)m = \frac{1}{2}; (x,y) : (2,3)$$

$$60)m = -3; I_x : (-3,0)$$

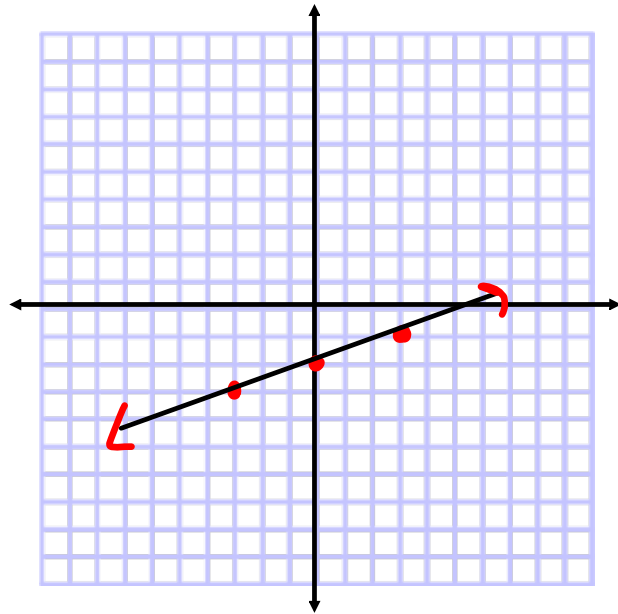
Graph using a t -chart.

$$2x - 6y = 12$$

$$-6y = -2x + 12$$

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

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



Graph using the slope-intercept method.

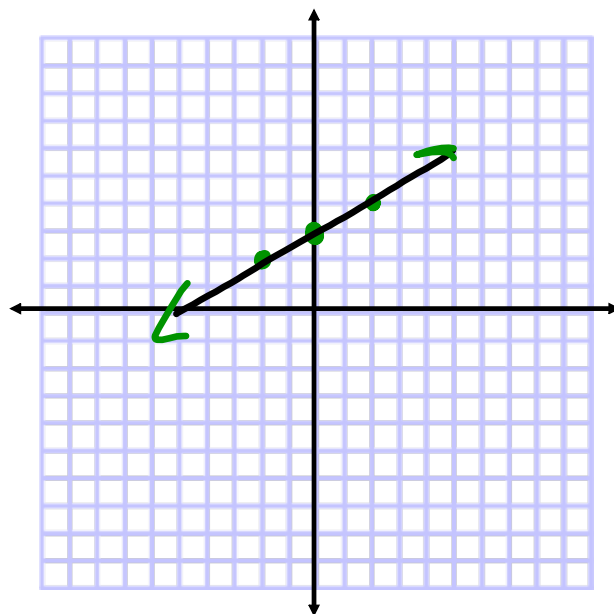
$$-3x + 6y = 18$$

$$6y = 3x + 18$$

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

$$m = \frac{1}{2} \leftrightarrow$$

$$I_y: (0, 3)$$



Graph using the slope-intercept method.

$$2x + 4 = 10$$

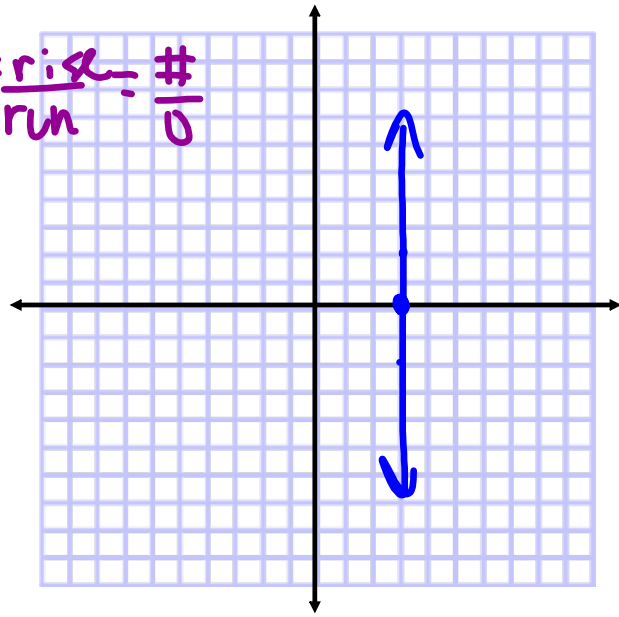
$$2x = 6$$

$$x = 3$$

$$m = \text{und}$$

$$I_x: (3, 0)$$

$$m = \frac{\text{rise} - \#}{\text{run} \quad 0}$$

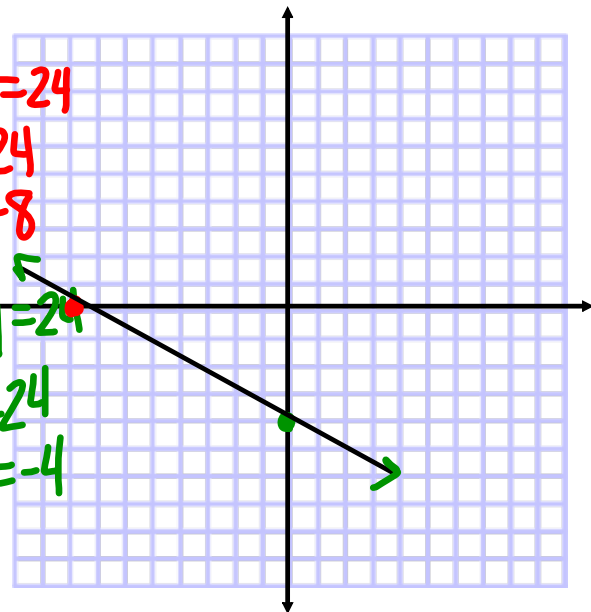


Graph using the intercept method.

$$-3x - 6y = 24$$

$$I_x: (-8, 0) \quad \begin{array}{l} -3x - 6(0) = 24 \\ -3x = 24 \\ x = -8 \end{array}$$

$$I_y: (0, -4) \quad \begin{array}{l} -3(0) - 6y = 24 \\ -6y = 24 \\ y = -4 \end{array}$$



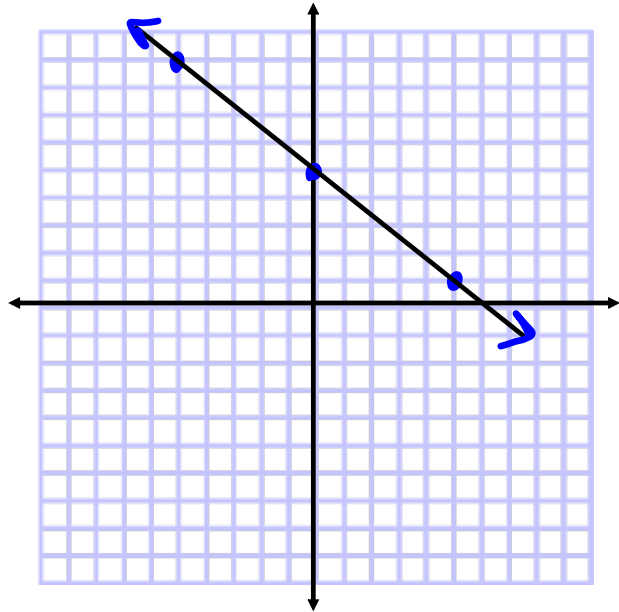
Graph using a t-chart.

$$4x + 5y = 25$$

$$5y = -4x + 25$$

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

x	y
-5	9
0	5
5	1



Graph using the slope-intercept method.

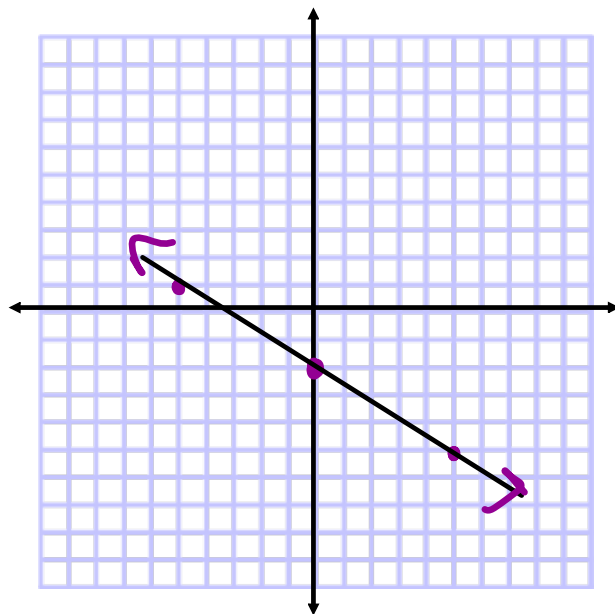
$$-3x - 5y = 10$$

$$-5y = 3x + 10$$

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

$$m = -\frac{3}{5}$$

$$I_y: (0, -2)$$

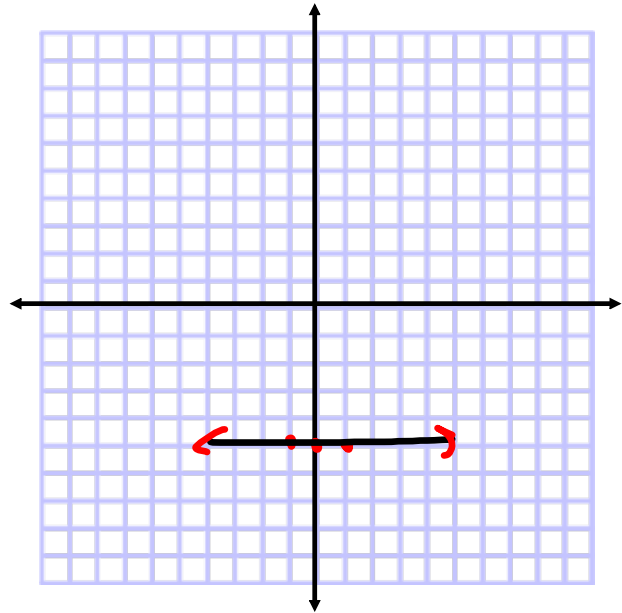


Graph using a t-chart.

$$-3y = 15$$

$$y = -5$$

X	Y
-1	-5
0	-5
1	-5



Graph using the intercept method.

$$y = -7x + 8$$

$$I_x: \left(\frac{8}{7}, 0\right)$$

$$I_y: (0, 8)$$

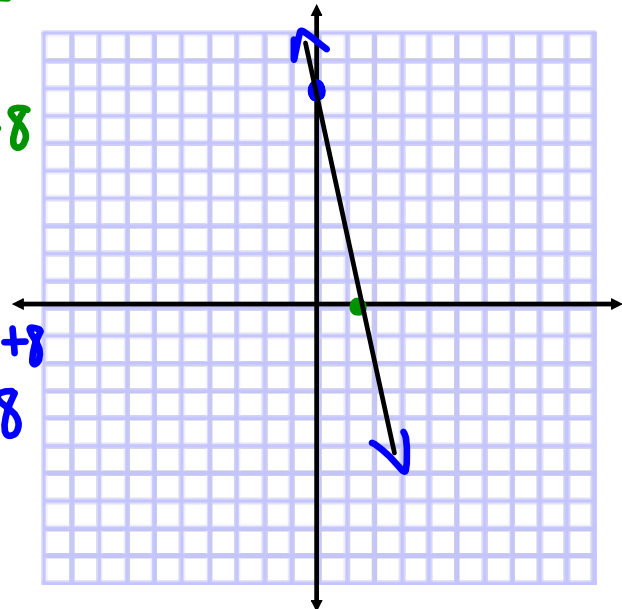
$$0 = -7x + 8$$

$$7x = 8$$

$$x = \frac{8}{7}$$

$$y = -7(0) + 8$$

$$y = 8$$



Equations for Lines:

- in order to write the equation for a line, at least one point and a slope are needed
 - if two points are known, use them to find the slope
- use the slope and an ordered pair to substitute into the equation for a line

$$y = mx + b$$

- this will allow the "b" to be found

Find the equation of the line that has the given characteristics.

$$P(-2, 1)$$

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

$$y = mx + b$$

$$1 = \frac{3}{2}(-2) + b$$

$$1 = -3 + b$$

$$b = 4$$

$$\rightarrow y = \frac{3}{2}x + 4$$

Find the equation of the line that has the given characteristics.

$$P(-2, 0)$$

$$m = 0$$

$$m = \frac{\text{rise}}{\text{run}} = \frac{0}{\#}$$

$y = \#$
↔

$$y = 0$$

Find the equation of the line that has the given characteristics.

$$P(3, -4)$$

$$m = \text{und}$$

$$m = \frac{\text{rise}}{\text{run}} = \frac{\#}{0}$$

↕ $x = \#$

$$x = 3$$

Find the equation of the line that has the given characteristics.

$$P(-1, -2)$$

$$P(3, 4)$$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{4 - (-2)}{3 - (-1)} = \frac{6}{4}$$

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

$$y = mx + b$$

$$4 = \frac{3}{2}(3) + b$$

$$4 = \frac{9}{2} + b$$

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

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

Assignment:

p.290 #4-56 (by 4)