

Equations in Slope-Intercept Form

A linear equation written in Slope-Intercept Form is written as such... $y = mx + b$

Directions: Determine which of the following equations are in slope-intercept form.

$$y = -4x - 6 \quad y + 5x = 9 \quad y = 8 - 3x \quad x = -7y + 4 \quad y = \frac{3}{5}x - 1 \quad y = -x + 12$$

The slope and y-intercept can easily be found if an equation is in slope-intercept form. There is not information provided about the x-intercept.

Given an equation of the form $y = mx + b$ slope = m y-intercept = b

Directions: Determine the slope and y-intercept of each linear equation.

Ex. 1 $y = -5x + 2$ slope y-intercept

Ex. 2 $y = \frac{4}{3}x + 6$ slope y-intercept

Ex. 3 $y = -x - 13$ slope y-intercept

Graphing Linear Equations in Slope-Intercept Form

1. Determine the y-intercept (b), and plot it.
2. Determine the slope (m), use the $\frac{\text{rise}}{\text{run}}$ values to "walk" from the y-intercept point to another point on the line, then plot it.
3. Draw a straight line through the y-intercept and point.

Note: If the y-intercept is a fraction, you can still graph using this method. Just slow down and be careful when "walking" to the 2nd point. Otherwise, you may want to try another graphing method.

Directions: Determine which direction to "walk" based upon the given slope.

Ex. 1 $m = \frac{-5}{2}$

Ex. 2 $m = 4$

Ex. 3 $m = \frac{5}{7}$

Directions: Rewrite each linear equation so that is in slope-intercept form.

Ex. 1 $10x + 2y = 4$

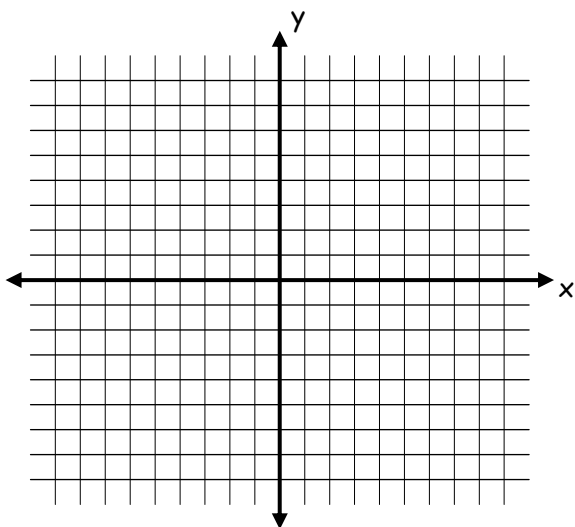
Ex. 2 $3x - 7y = 56$

Ex. 3 $x + 6y = -30$

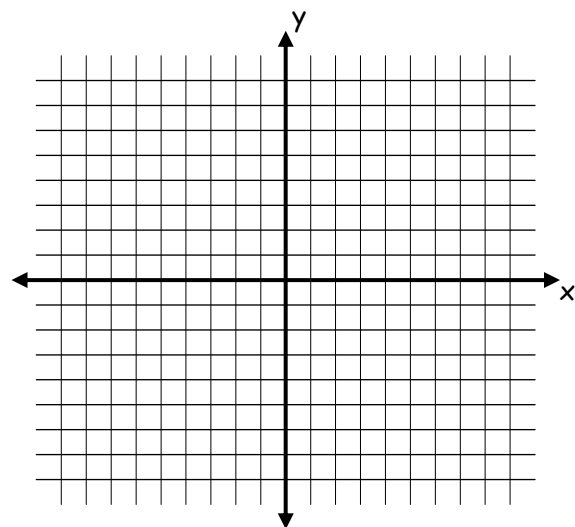
Ex. 4 $9x - 4y = -10$

Directions: Graph each equation by the slope-intercept method.

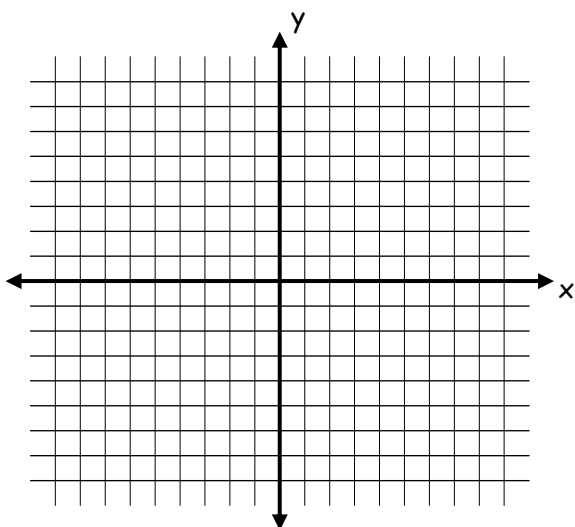
Ex. 1 $y = \frac{3}{2}x - 2$



Ex. 2 $y = -6x + 1$



Ex. 3 $y = \frac{-2}{7}x + 3$



Ex. 4 $y = 4x - 5$

