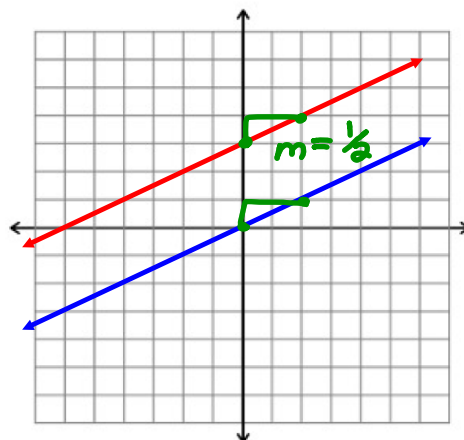


Parallel Lines

Parallel lines are 2 or more lines where the slopes are equal.



ex) Write an equation of a line // to $y = \overset{m}{-3}x + 4$.

$$y = -3x + 2$$

ex) Write the line // to $y = \frac{1}{2}x - 3$ that contains the point $(-4, 5)$ in slope-intercept form. $m // = \frac{1}{2}$ x_1, y_1

$$y - 5 = \frac{1}{2}(x + 4)$$

$$y - 5 = \frac{1}{2}x + 2$$

$$y = \frac{1}{2}x + 7$$

ex) Write the equation of the line in general form with the point $(-1, 3)$ and // to $0 = 2x + y + 1$.

x_1, y_1

1) Rearrange into $y = mx + b$ form

$$-2x - 1 = y$$

2) Find // slope

$$m // = -2$$

3) Plug into point-slope form

$$y - 3 = -2(x + 1)$$

4) Rearrange back to general form

$$y - 3 = -2x - 2$$

$$2x + y - 1 = 0$$