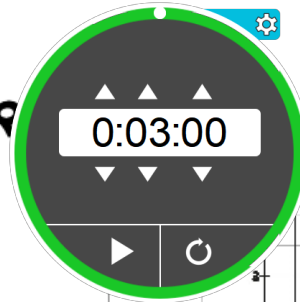


NAME \_\_\_\_\_

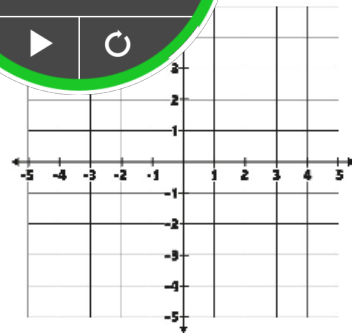
#46

**BELL RINGER**

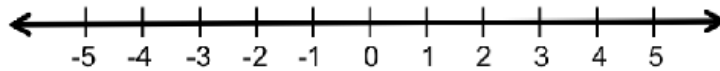


1.) Simplify  $-2(a + 3) - 5$ .

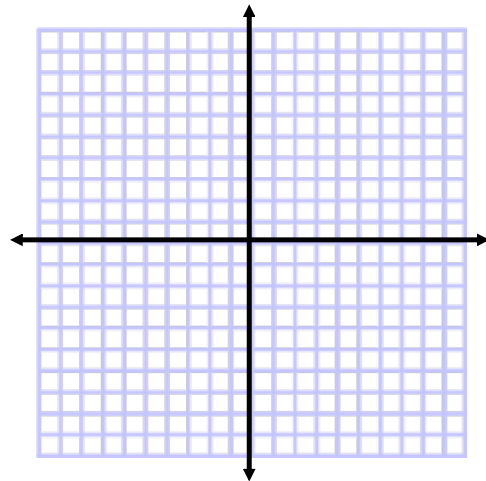
2.) Graph  $y = \frac{1}{2}x - 1$ .  
(use slope-intercept method)



3.) Graph  $x < -1$  or  $x \geq 2$ .



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



Find the equation for the line parallel to the given and passing through the indicated point.

$$4x + 3y = 12$$

passes through  $(-6, 4)$

$$m_{//} = -\frac{4}{3}$$

① slope-intercept

$$y = mx + b$$

$$4 = -\frac{4}{3}(-6) + b$$

$$4 = 8 + b$$

$$-4 = b$$

$$y = -\frac{4}{3}x - 4$$

$$\frac{3y}{3} = \frac{-4x + 12}{3}$$

$$y = -\frac{4}{3}x + 4$$

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

② standard

$$y = -\frac{4}{3}x - 4$$

$$3 \left[ \frac{4}{3}x + y = -4 \right]$$

$$4x + 3y = -12$$

Find the equation for the line perpendicular to the given and passing through the indicated point.

$$3x - 4y = 12$$

passes through  $(-3, 2)$

$$m_{\perp} = -\frac{4}{3}$$

① slope-intercept

$$y = mx + b$$

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

$$2 = 4 + b$$

$$b = -2$$

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

$$\frac{-4y}{-4} = \frac{-3x + 12}{-4}$$

$$y = \frac{3}{4}x - 3$$

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

② standard

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

$$3 \left[ \frac{4}{3}x + y = -2 \right]$$

$$4x + 3y = -6$$

Write the slope-intercept form of an equation of the line that passes through the given point and is parallel to the graph of each equation.

$(1, -1); y = \frac{1}{2}x + 1$   
 $m_{//} = \frac{1}{2}$        $m = \frac{1}{2}$

① slope-intercept

$$y = mx + b$$

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

$$2 \left[ -1 = \frac{1}{2} + b \right]$$

$$-2 = 1 + 2b$$

$$-3 = 2b$$

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

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

Write the slope-intercept form of an equation of the line that passes through the given point and is perpendicular to the graph of each equation.

$(6, -2)$   $y = \frac{3}{2}x + 1$

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

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

Write the slope-intercept and standard form of an equation of the line that passes through the given point and is parallel to the graph of each equation.

$$(4, 5); 3x + 2y = -9$$

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

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

① Slope-intercept  $y = -\frac{3}{2}x - \frac{9}{2}$

$$y = mx + b$$

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

$$5 = -\frac{3}{2}(4) + b$$

$$5 = -6 + b$$

$$b = 11$$

$$y = -\frac{3}{2}x + 11$$

② standard

$$y = -\frac{3}{2}x + 11$$

$$2 \left[ \frac{3}{2}x + y = 11 \right]$$

$$3x + 2y = 22$$

Write the slope-intercept and standard form of an equation of the line that passes through the given point and is perpendicular to the graph of each equation.

$$(3, 4); 2x - 5y = 10$$

$$m_{\perp} = -\frac{5}{2} \quad \frac{-5y}{-5} = \frac{-2x+10}{-5}$$

① slope-intercept

$$y = mx + b$$

$$4 = -\frac{5}{2}(3) + b$$

$$2 \left[ 4 = -\frac{15}{2} + b \right]$$

$$8 = -15 + 2b$$

$$23 = 2b$$

$$b = \frac{23}{2}$$

$$y = -\frac{5}{2}x + \frac{23}{2}$$

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

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

② standard

$$y = -\frac{5}{2}x + \frac{23}{2}$$

$$2 \left[ \frac{5}{2}x + y = \frac{23}{2} \right]$$

$$5x + 2y = 23$$

# Assignment:

Equations for Lines 3

#1-16

\* Slope-intercept  
and standard

\* Write formulas & show ALL work \*

\* QUIZ Wednesday \*