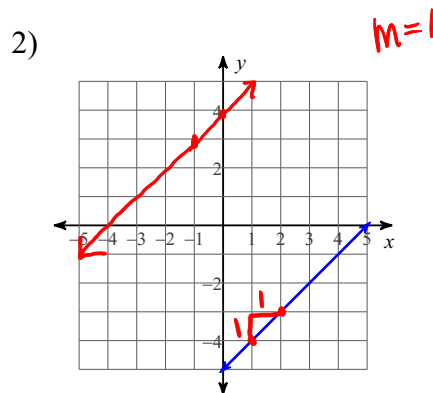
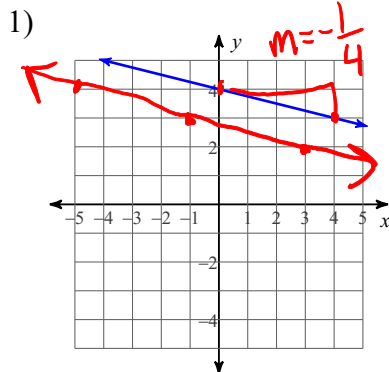
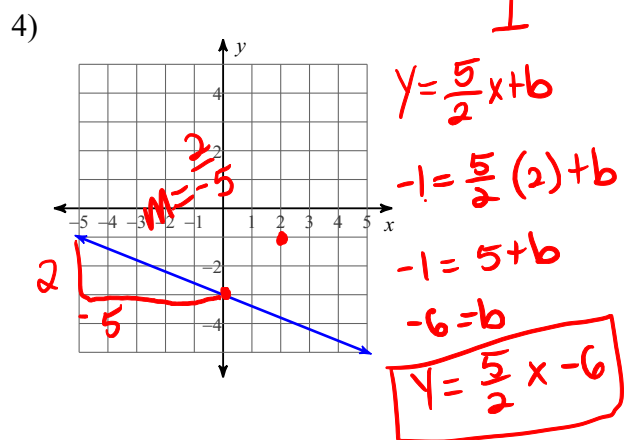
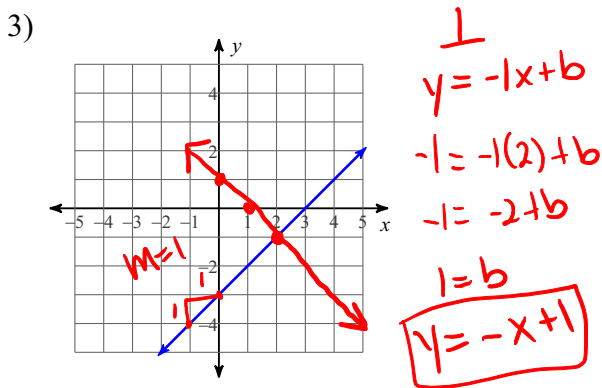


Parallel & Perpendicular through a point

Given the graph create a line parallel and through the point (-1, 3)



Given the graph create a line perpendicular and through the point (2, -1)



Write an equation of a line parallel to the given line and through the point (-3, 4)

5) $y = 3x - 3$

||

$y = 3x + b$

$4 = 3(-3) + b$

$4 = -9 + b$

$13 = b$

$y = 3x + 13$

6) $-18 + 9y = 3x$ $y = m x + b$

$-18 + 9y = 3x$

$\frac{9y}{9} = \frac{3x + 18}{9}$

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

||

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

$4 = \frac{1}{3}(3) + b$

$4 = 1 + b$

$5 = b$

$y = \frac{1}{3}x + 5$

Write an equation of a line perpendicular to the given line and through the point (5, -1)

7) $y = 5x + 2$ \perp

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

$$-1 = -\frac{1}{5}(5) + b$$

$$-1 = -1 + b$$

$$-2 = b$$

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

8) $-6 - 5x = -3y$ $y = mx + b$

$$\frac{-3y}{-3} = \frac{-6 - 5x}{-3}$$

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

$$\perp$$

$$y = -\frac{3}{5}x + b$$

$$-1 = -\frac{3}{5}(5) + b$$

$$-1 = -3 + b$$

$$2 = b$$

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

Write an equation of a line parallel to the given points and through (3, 4)

9) through: (2, 4) and (0, 0) $m = \frac{y_2 - y_1}{x_2 - x_1}$

$$m = \frac{4 - 0}{2 - 0} = \frac{4}{2} = 2$$

||

$$y = 2x + b$$

$$4 = 2(3) + b$$

$$4 = 6 + b$$

$$-2 = b$$

$$y = 2x - 2$$

10) through: (2, 4) and (3, 2)

$$m = \frac{4 - 2}{2 - 3} = \frac{2}{-1} = -2$$

||

$$y = -2x + b$$

$$4 = -2(3) + b$$

$$4 = -6 + b$$

$$10 = b$$

$$y = -2x + 10$$

Write an equation of a line perpendicular to the given points and through (0, -2)

11) through: (5, -4) and (3, 2)

$$m = \frac{-4 - 2}{5 - 3} = \frac{-6}{2} = -3$$

\perp

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

$$-2 = \frac{1}{3}(0) + b$$

$$-2 = b$$

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

12) through: (-1, -5) and (0, 2)

$$m = \frac{2 - (-5)}{0 - (-1)} = \frac{7}{1} = 7$$

\perp

$$y = -\frac{1}{7}x + b$$

$$-2 = -\frac{1}{7}(0) + b$$

$$-2 = b$$

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