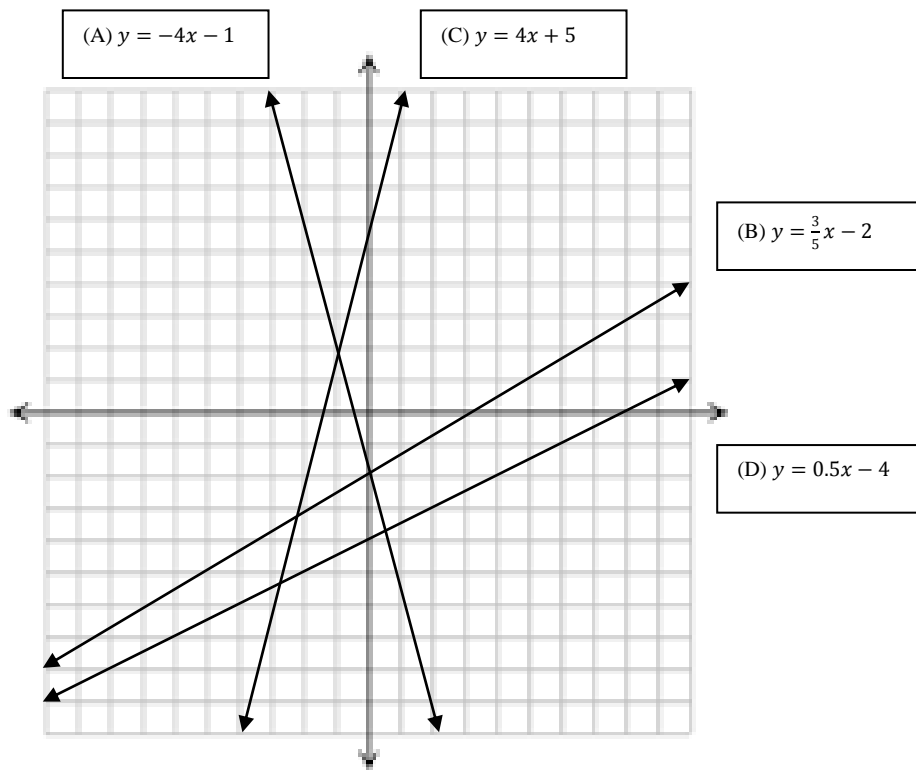


Name: _____

Slope-Intercept Form Homework

1. Identify the slope, x-intercept, and y-intercept for each of the following equations. Then graph and label them on the provided coordinate plane.

<p>(A) $y = -4x - 1$</p> $0 = -4x - 1$ $1 = -4x$ $x = -\frac{1}{4}$ <p>m: -4 x-int: $-\frac{1}{4}$ y-int (b): -1</p>	<p>(B) $y = \frac{3}{5}x - 2$</p> $0 = \frac{3}{5}x - 2$ $\left(\frac{5}{3}\right) * 2 = \left(\frac{3}{5}x\right) \left(\frac{5}{3}\right)$ $x = \frac{10}{3}$ <p>m: $\frac{3}{5}$ x-int: $\frac{10}{3}$ y-int (b): -2</p>
<p>(C) $y = 4x + 5$</p> $0 = 4x + 5$ $-5 = 4x$ $x = -\frac{5}{4}$ <p>m: 4 x-int: $-\frac{5}{4}$ y-int (b): 5</p>	<p>(D) $y = 0.5x - 4$</p> $0 = 0.5x - 4$ $4 = 0.5x$ $x = 8$ <p>m: 0.5 x-int: 8 y-int (b): -4</p>



2. Write an equation in slope-intercept form for the line that contains the following points.

(A) (0,6) and (5,0)

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{0 - 6}{5 - 0} = -\frac{6}{5}$$

$$y = -\frac{6}{5}x + b$$

$$6 = -\frac{6}{5} * (0) + b$$

$$b = 6$$

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

(B) (3,4) and (-1,-2)

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

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

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

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

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

(C) (7,-7) and (-4,-3)

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-7 + 3}{7 + 4} = -\frac{4}{11}$$

$$y = -\frac{4}{11}x + b$$

$$-3 = -\frac{4}{11} * (-4) + b$$

$$-3 = \frac{16}{11} + b$$

$$b = -\frac{49}{11}$$

$$y = -\frac{4}{11}x - \frac{49}{11}$$

(D) (6,6) and (-2,-2)

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{6 + 2}{6 + 2} = \frac{8}{8} = 1$$

$$y = 1x + b$$

$$-2 = 1 * (-2) + b$$

$$-2 = -2 + b$$

$$b = 0$$

$$y = x$$

3. Write an equation in slope-intercept form for the line that fits each description below.

(A) contains the origin and has a slope of -2

$$y = -2x$$

(B) crosses the y-axis at -1 and has a slope of 5

$$y = 5x - 1$$

(C) contains (-3,2) and (6,6)

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{6 - 2}{6 + 3} = \frac{4}{9}$$

$$y = \left(\frac{4}{9}\right)x + b$$

$$2 = \left(\frac{4}{9}\right) * (-3) + b$$

$$b = \frac{10}{3}$$

$$y = \frac{4}{9}x + \frac{10}{3}$$

(D) contains the point (3,-5) and is parallel to the

line $y = 3x - 4$

$$m = 3$$

$$y = 3x + b$$

$$-5 = 3 * (3) + b$$

$$b = -14$$

$$y = 3x - 14$$

(E) contains the point $(-1,4)$ and is parallel to the line $2y = 4x + 10$

$$y = 2x + 5$$

$$m = 2$$

$$y = 2x + b$$

$$4 = 2 * (-1) + b$$

$$b = 6$$

$$y = 2x + 6$$

(F) contains the point $(2,7)$ and is perpendicular to the line $y = 3x - 4$

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

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

$$7 = -\frac{1}{3} * (2) + b$$

$$b = \frac{23}{3}$$

$$y = -\frac{1}{3}x + \frac{23}{3}$$