

Review Exercise Set 7

Exercise 1: Solve for the unknown coordinate in the given ordered pair that makes it a solution to the equation $3x - 2y = 8$.

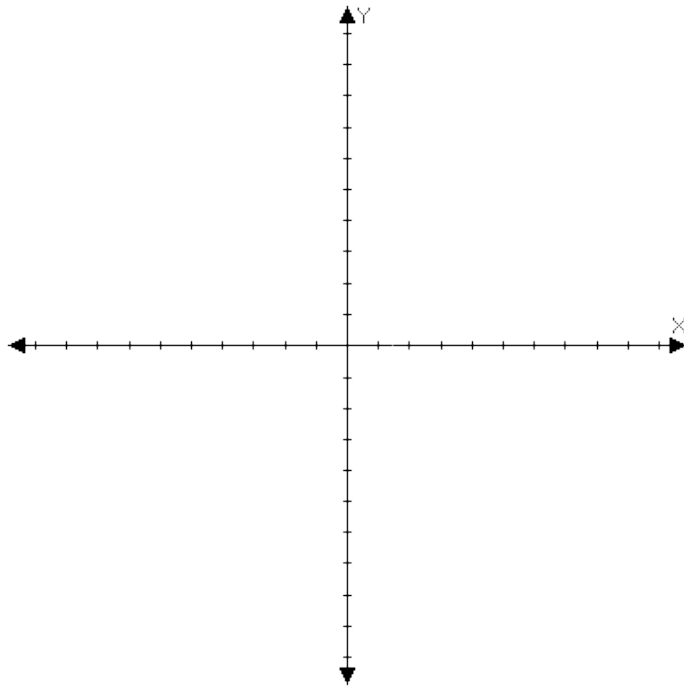
$$(6, y)$$

Exercise 2: Find the x- and y-intercepts for the given equation.

$$\frac{2}{3}x - \frac{1}{4}y = 20$$

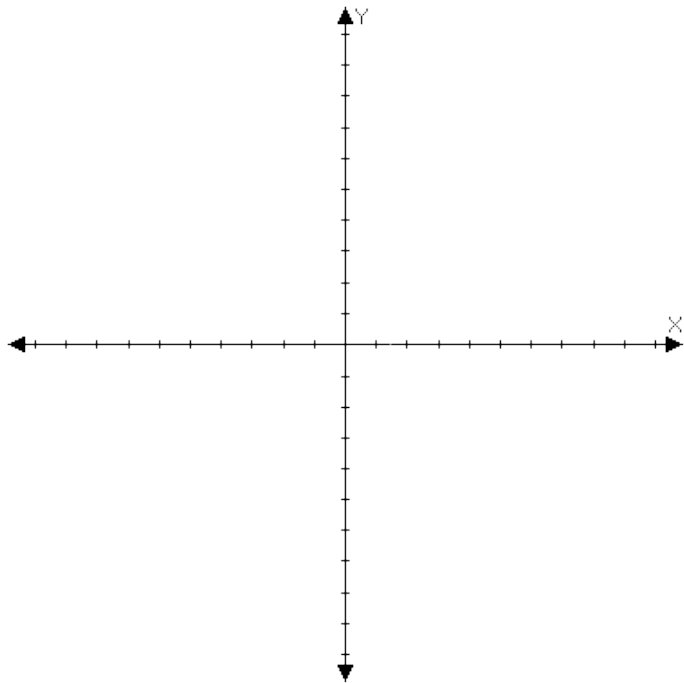
Exercise 3: Graph the given linear equation.

$$-2x + 3y = 6$$



Exercise 4: Graph the given linear equation.

$$y - 4 = 0$$



Exercise 5: Determine the coefficients to be placed in the shaded squares so that the graph of the equation will be a line with the given intercepts.

$$\blacksquare x + \blacksquare y = -20; \quad (0, 5) \text{ and } (-4, 0)$$

Review Exercise Set 7 Answer Key

Exercise 1: Solve for the unknown coordinate in the given ordered pair that makes it a solution to the equation $3x - 2y = 8$.

$$(6, y)$$

$$3x - 2y = 8$$

$$3(6) - 2y = 8$$

$$18 - 2y = 8$$

$$18 - 8 = 2y$$

$$10 = 2y$$

$$5 = y$$

The ordered pair is (6, 5).

Exercise 2: Find the x- and y-intercepts for the given equation.

$$\frac{2}{3}x - \frac{1}{4}y = 20$$

For the x-intercept let $y = 0$ and solve for x

$$\frac{2}{3}x - \frac{1}{4}(0) = 20$$

$$\frac{2}{3}x = 20$$

$$2x = 60$$

$$x = 30$$

x-intercept is at (30, 0)

For the y-intercept let $x = 0$ and solve for y

$$\frac{2}{3}(0) - \frac{1}{4}y = 20$$

$$-\frac{1}{4}y = 20$$

$$y = -80$$

y-intercept is at (0, -80)

Exercise 3: Graph the given linear equation.

$$-2x + 3y = 6$$

Find the intercepts

Let $y = 0$

$$-2x + 3(0) = 6$$

$$-2x + 0 = 6$$

$$-2x = 6$$

$$x = -3$$

$$(-3, 0)$$

Let $x = 0$

$$-2(0) + 3y = 6$$

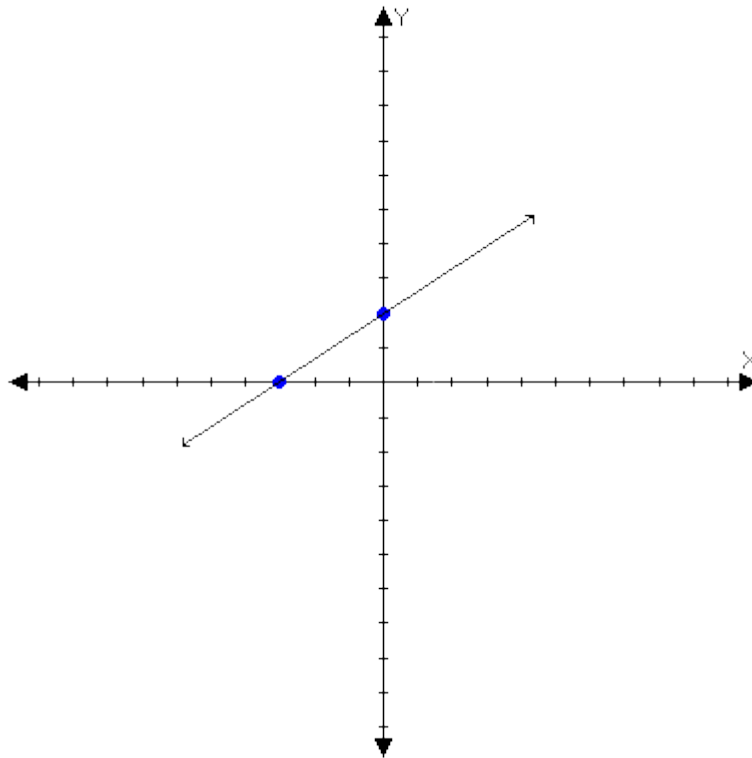
$$0 + 3y = 6$$

$$3y = 6$$

$$y = 2$$

$$(0, 2)$$

Plot the intercepts and draw the line passing through them



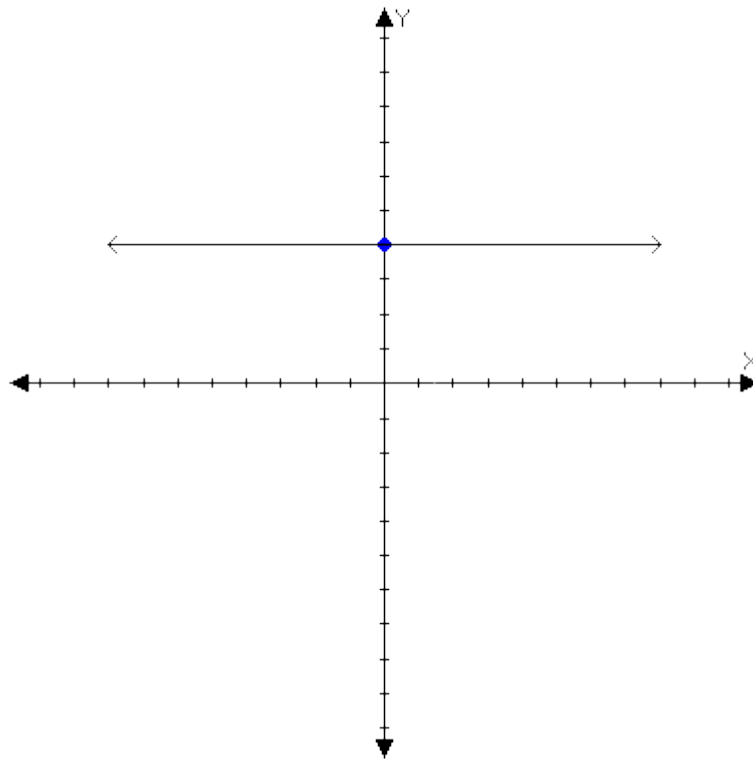
Exercise 4: Graph the given linear equation.

$$y - 4 = 0$$

Solve the equation for y

$$y = 4$$

The equation $y = 4$ is a horizontal line so we would simply draw a line passing through the y-intercept of $(0, 4)$.



Exercise 5: Determine the coefficients to be placed in the shaded squares so that the graph of the equation will be a line with the given intercepts.

$$\blacksquare x + \blacksquare y = -20; (0, 5) \text{ and } (-4, 0)$$

Use the coordinates of the y-intercept $(0, 5)$ to find the coefficient of y

$$\blacksquare x + \blacksquare y = -20$$

$$a(0) + b(5) = -20$$

$$0 + b(5) = -20$$

$$5b = -20$$

$$b = -4$$

The coefficient for y is -4

Exercise 5 (Continued):

Use the coordinates of the x-intercept $(-4, 0)$ to find the coefficient of x

$$x - 4y = -20$$

$$a(-4) - 4(0) = -20$$

$$-4a - 0 = -20$$

$$-4a = -20$$

$$a = 5$$

The coefficient for x is 5

The equation would be $5x - 4y = -20$.