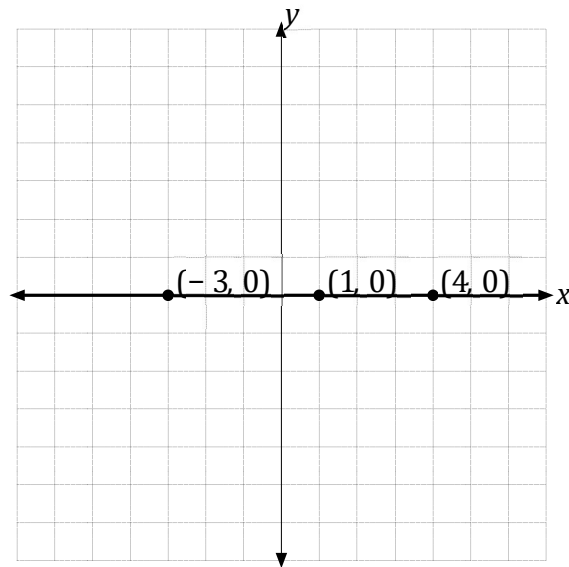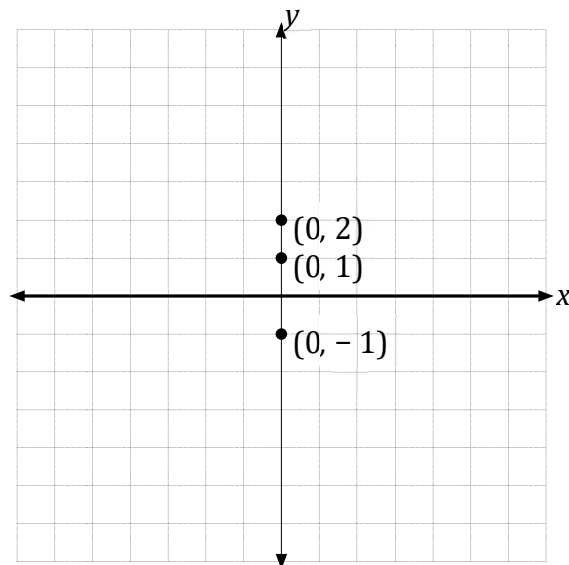# Finding x and y Intercepts

The x-intercept is the point at which a graph crosses the x-axis. As the y value is zero anywhere along the x-axis, the x-intercept is an ordered pair of numbers where the y value is always zero. The points $(-3, 0)$, $(1, 0)$, $(4, 0)$ are all examples of points on the x-axis.

The y-intercept is the point at which a graph crosses the y-axis. As the x value is zero anywhere along the y-axis, the y-intercept is an ordered pair of numbers where the x value is always zero.

The points $(0, 1)$, $(0, -1)$, and $(0, 2)$ are all examples of points on the y-axis.

It is possible to graph the equation of a line by finding the x- and y-intercepts.

EXAMPLE: We will graph the equation $3x + 2y = 12$ by finding the x- and y-intercepts.

1. To find the x-intercept, let $y = 0$ and solve for x.

$$3x + 2y = 12$$

$$3x + 2(0) = 12$$

$$3x = 12 \quad x =$$

$$4$$

The x-intercept is the ordered pair (4, 0).

2. To find the y-intercept, let $x = 0$ and solve for y.

$$3x + 2y = 12$$

$$3(0) + 2y = 12$$

$$2y = 12 \quad y = 6$$

The y-intercept is the ordered pair (0, 6).