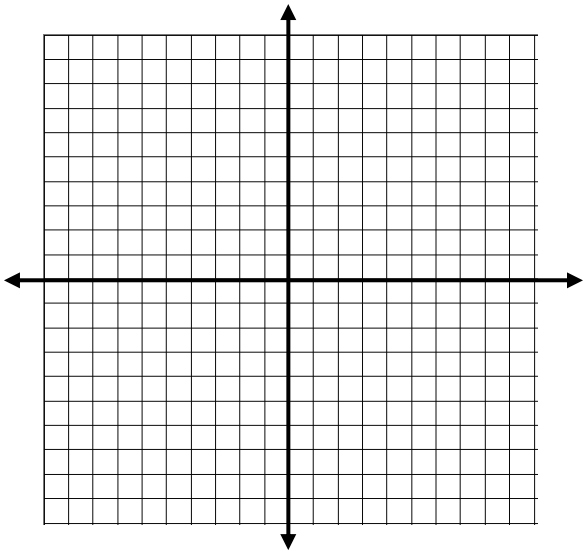
Name _____ Date _____

Graphing Linear and Quadratic Functions - Step-by-Step Lesson

Graph this function using intercepts:

$3x - 5y = 15$



Explanation:

The x-intercept is the x-coordinate of the point where the graph crosses the x-axis. The coordinates of the x-intercept are (x, 0), where x is the x-intercept.

The y-intercept is the y-coordinate of the point where the graph crosses the y-axis. The coordinates of the y-intercept are (0, y), where y is the y-intercept.

Find the x-intercept. The x-intercept is on the x-axis, where y = 0. Plug y = 0 into the equation and solve for the x-intercept x.

$3x - 5y = 15$

$3x - 5(0) = 15$ Plug in y = 0

$3x = 5$ Simplify

$x = 5$ Divide both sides by 3

The x-intercept is 5. Its coordinates are (5, 0).

Find the y-intercept.

Name _____ Date _____

The y-intercept is on the y-axis, where x = 0. Plug x = 0 into the equation and solve for the y-intercept y.

$3x - 5y = 15$

$3(0) - 5y = 15$ Plug in x = 0

$-5y = 15$ Simplify

$y = -3$ Divide both sides by-5

The y-intercept is -3. Its coordinates are (0, -3).

Use the intercepts to graph the line.

Plot the x-intercept (5, 0) and the y-intercept (0, -3). The graph is the straight line connecting them.