

Section 6.3 – Graphing Using X and Y Intercepts

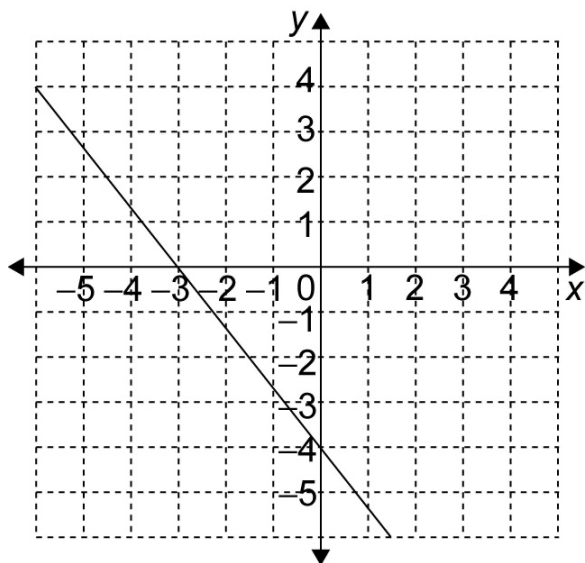
MPM1D

Jensen

Learning Goals: In this lesson students will learn how to calculate the x and y intercepts of a linear equation in Standard Form.

Part 1: Do It Now!

What are the x and y intercepts of the following line:



x-intercept: _____

y-intercept: _____

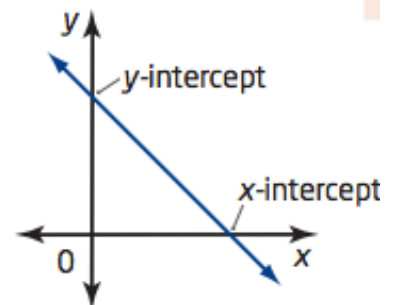
When a line is written in standard form, $Ax + By + C = 0$, or the form $Ax + By = -C$, it is easy to graph the line using _____.

The **x-intercept** is the x -coordinate of the point where the line crosses the x -axis.

At the x -intercept, _____.

The **y-intercept** is the y -coordinate of the point where the line crosses the y -axis.

At the y -intercept, _____.

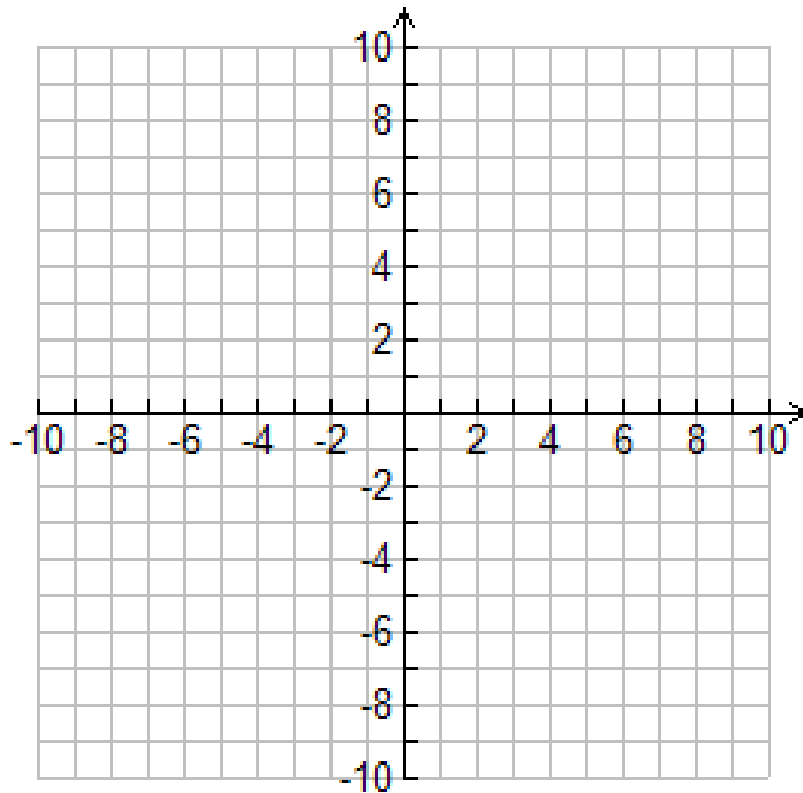


Example 1:

Determine the intercepts for the line $2x - 3y - 6 = 0$ and use these points to graph the line.

**To find the x -intercept,
set $y = 0$ and solve:**

**To find the y -intercept,
set $x = 0$ and solve:**

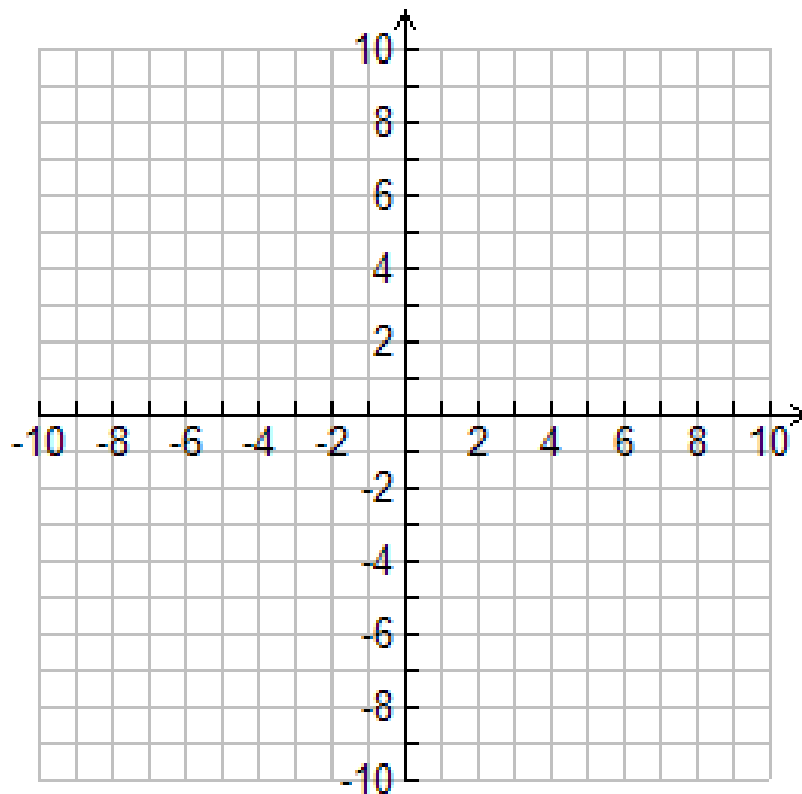


Example 2:

Determine the intercepts for the line $2x - y = 7$ and use these points to graph the line.

To find the x -intercept,
set $y=0$ and solve:

To find the y -intercept,
set $x = 0$ and solve:



Example 3: a) Determine the intercepts for the line $5x - 6y + 30 = 0$.

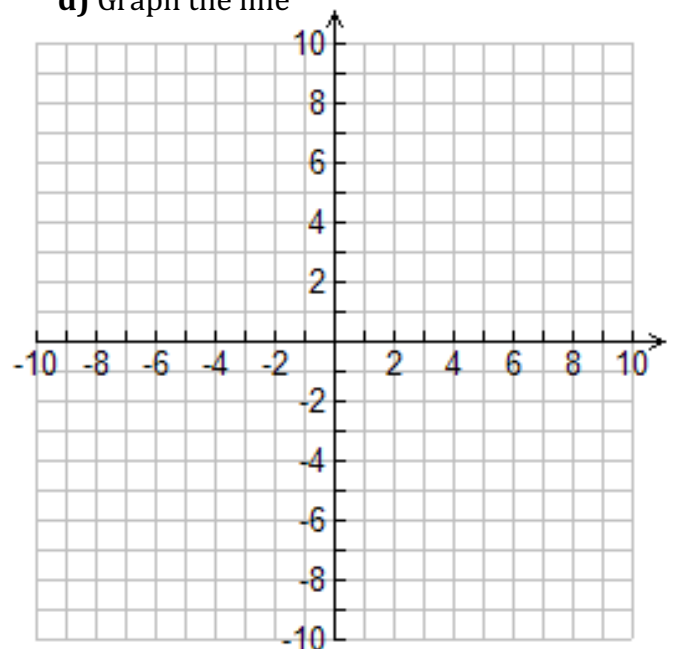
Remember:

$$\text{Slope} = \frac{y_2 - y_1}{x_2 - x_1}$$

b) Use the intercepts to determine the slope of the line.

c) Write the equation of the line

d) Graph the line



Example 4: Determine the slope of the line whose x -intercept is -4 and y -intercept is -6 .

Consolidate:

State the steps needed to graph a line using the intercepts.