

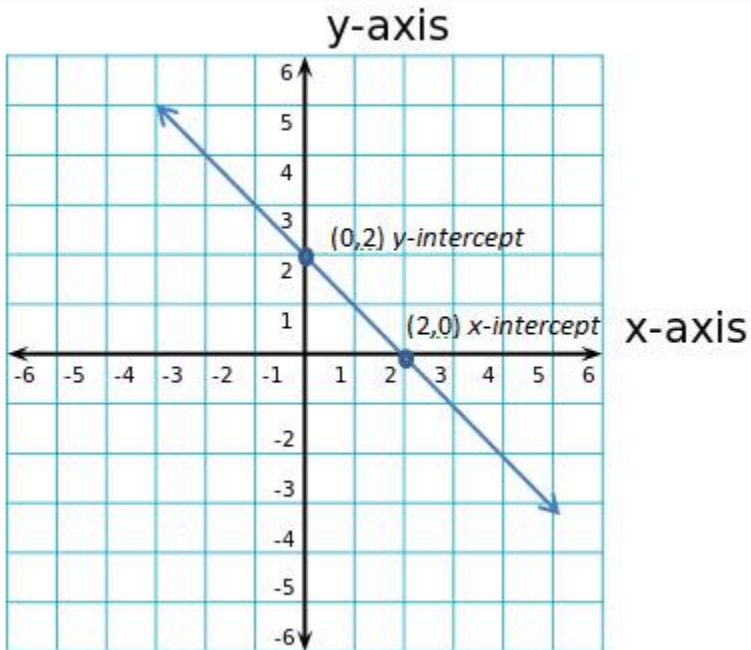
## MAT0028 ~ Lesson 19

Work the following examples as you listen to the recorded lecture.

### Intercepts

Linear equations can be drawn as straight lines on the graph known as the Rectangular Coordinate System. This graph has two central lines, the y-axis and the x-axis, that help us identify points and lines. Points are identified on the graph by their x and y values as ordered pairs, written  $(x, y)$ . For example, the point  $(3, 4)$  would be found by moving from the center of the graph 3 spaces to the right and 4 spaces up. When a line crosses an axis, we have an intercept. In the example below, we have two intercepts. The y-intercept is the point where the line crosses the y-axis,  $(0, 2)$ , and the x-intercept is the point where the line crosses the x-axis,  $(2, 0)$ .

**An intercept is a point where a line crosses an axis.**



#### **Definition....**

The **y-intercept** of a line is the point where the line **crosses the y axis** in the rectangular coordinate system, therefore  **$x = 0$** .

The **x-intercept** of a line is the point where the line **crosses the x axis** in the rectangular coordinate system, therefore  **$y = 0$** .