MAT0028 ~ Lesson 21

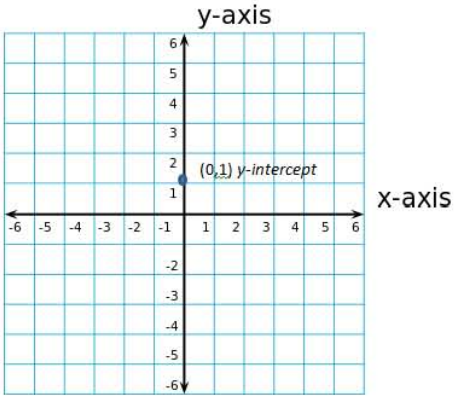
Work the following examples as you listen to the recorded lecture.

Graphing a line using slope and y-intercept

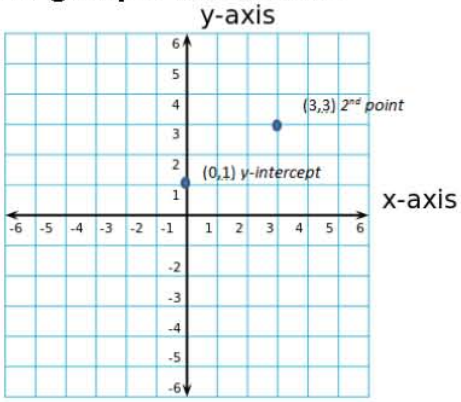
Graphing a line is easy if you know a point on the line and the slope. Since the slope-intercept form of the linear equations tells us the y-intercept, which is a point on the line, and the slope of the line, we can quickly graph the line on the rectangular coordinate system graph.

For example, let's look at the linear equation $y = \frac{2}{3}x + 1$. We recognize slope-intercept form, and can easily find the slope of the line, which is $\frac{2}{3}$, and the y-intercept, (0,1). The example below shows the steps taken to graph this line:

Step 1:
Find the y-intercept and place it on the graph



Step 2:
Find the next point on the line by following the slope. Since the slope is always $\frac{Rise}{Run}$, we move up the number of spaces in the numerator and over the number of spaces in the denominator. In this case, we go up 2 and over 3.



Step 3:
Since 2 points are all we need to graph a line, we draw a line through our 2 points to complete the graph. This is the graph for $y = \frac{2}{3}x + 1$.