MAT0028 ~ Lesson 18-A
Work the following examples as you listen to the recorded lecture.

## Plotting Points on the Rectangular Coordinate System

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 rectangular coordinate system 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.

Plot these points on the graph below:
$(-1,5) \quad(-2,-3) \quad(2,-4)$

| $y$-axis |  |  |  |  |  |  |  |  |  |  |  | x -axis |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | ${ }^{6} \uparrow$ |  |  |  |  |  |  |  |
|  |  |  |  |  | 5 |  |  |  |  | 3,4) |  |  |
|  |  |  |  |  | 4 |  |  |  |  |  |  |  |
|  |  |  |  |  | 3 |  |  |  |  |  |  |  |
|  |  |  |  |  | 2 |  |  |  |  |  |  |  |
|  |  |  |  |  | 1 |  |  |  |  |  |  |  |
| $\stackrel{-}{6}$ | . 5 | -4 | -3 | -2 | -1 | 1 | 2 | ${ }^{3}$ | 4 | 5 | ${ }_{6}$ |  |
|  |  |  |  |  | -2 |  |  |  |  |  |  |  |
|  |  |  |  |  | -3 |  |  |  |  |  |  |  |
|  |  |  |  |  | -4 |  |  |  |  |  |  |  |
|  |  |  |  |  | -5 |  |  |  |  |  |  |  |
|  |  |  |  |  | -6 |  |  |  |  |  |  |  |

## Definition....

The $y$-axis and $x$-axis divide the rectangular coordinate system graph into four quadrants, I, II, III, and IV.

