

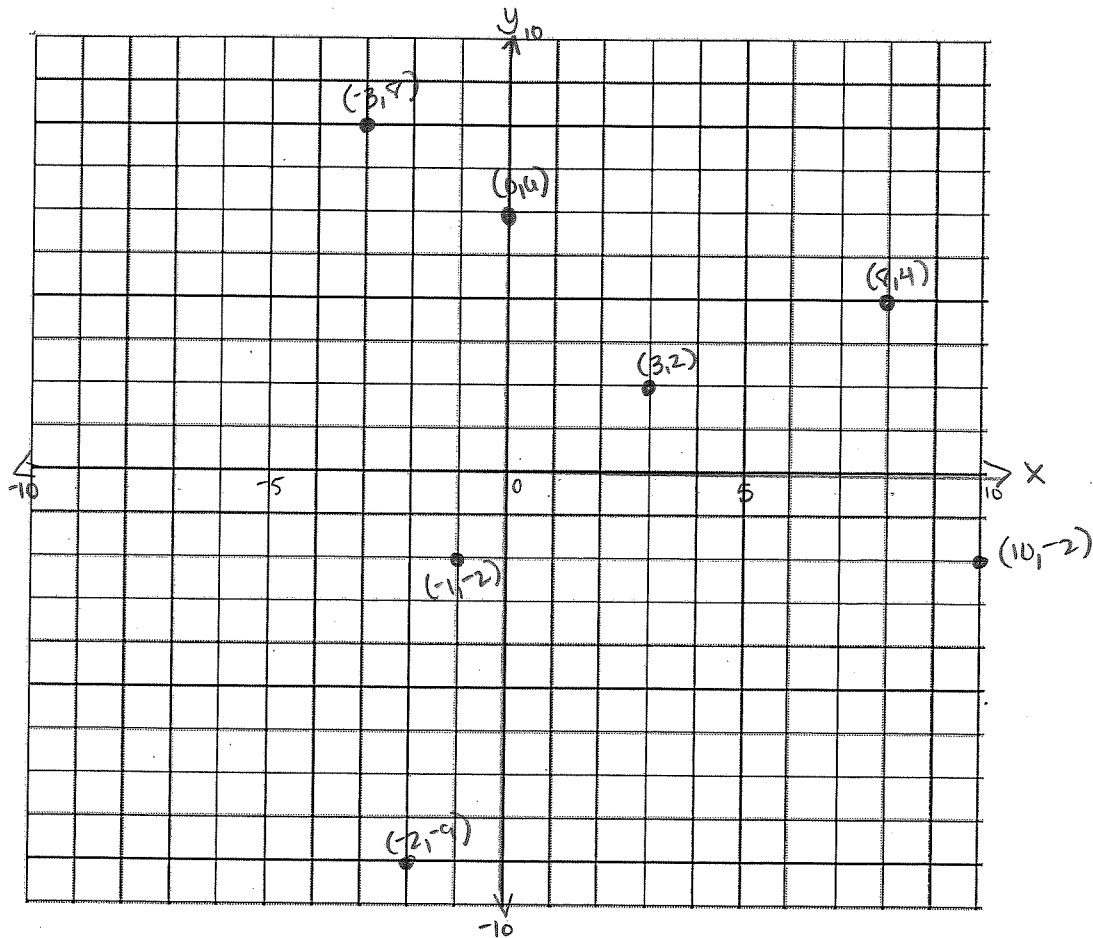
Teacher Notes

## Lesson 17: Drawing the Coordinate Plane and Points on the Plane

### Classwork

#### Opening Exercise

Draw all necessary components of the coordinate plane on the blank  $20 \times 20$  grid provided below, placing the origin at the center of the grid and letting each grid line represent 1 unit.



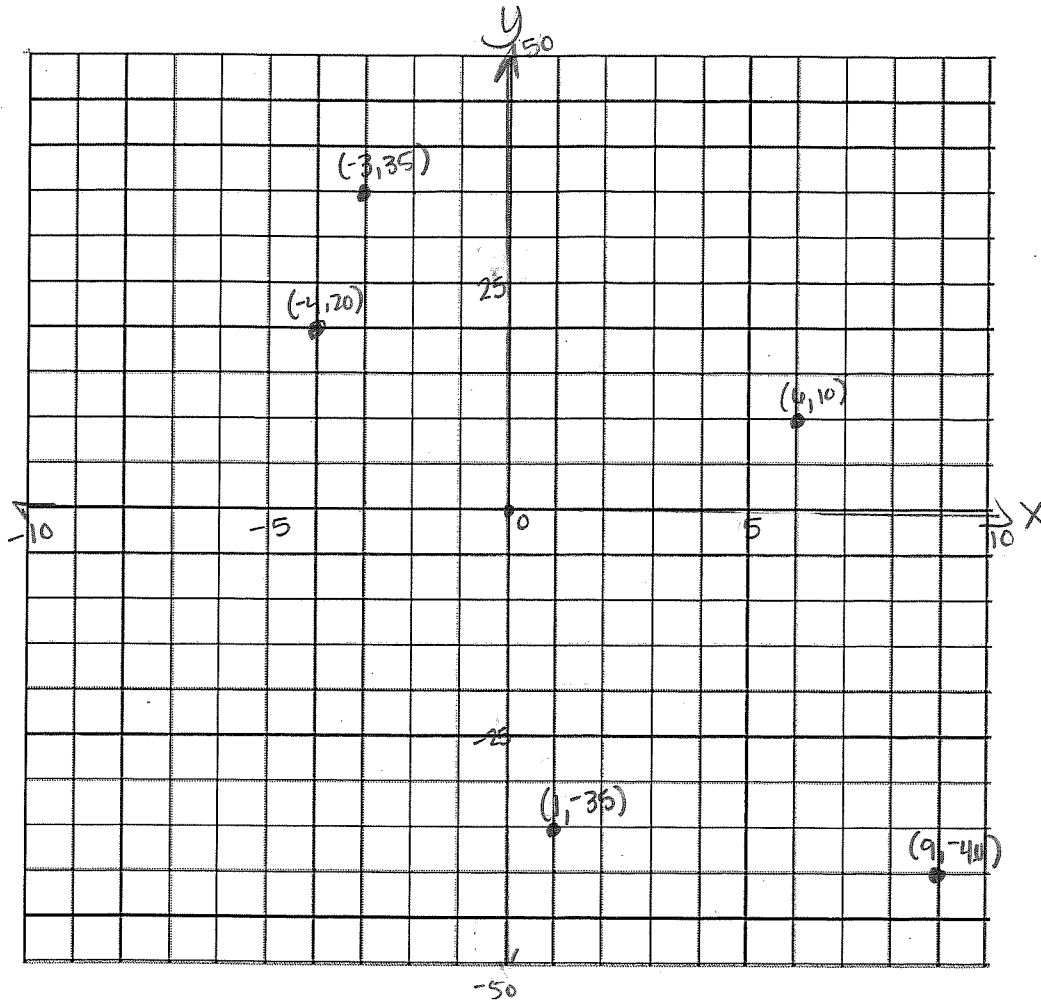
#### Example 1: Drawing the Coordinate Plane using a 1:1 Scale

Locate and label the points  $\{(3, 2), (8, 4), (-3, 8), (-1, -2), (10, -2)\}$  on the grid above.

**Example 2: Drawing the Coordinate Plane Using an Increased Number Scale for One Axis**

Draw a coordinate plane on the grid below, and then locate and label the following points:

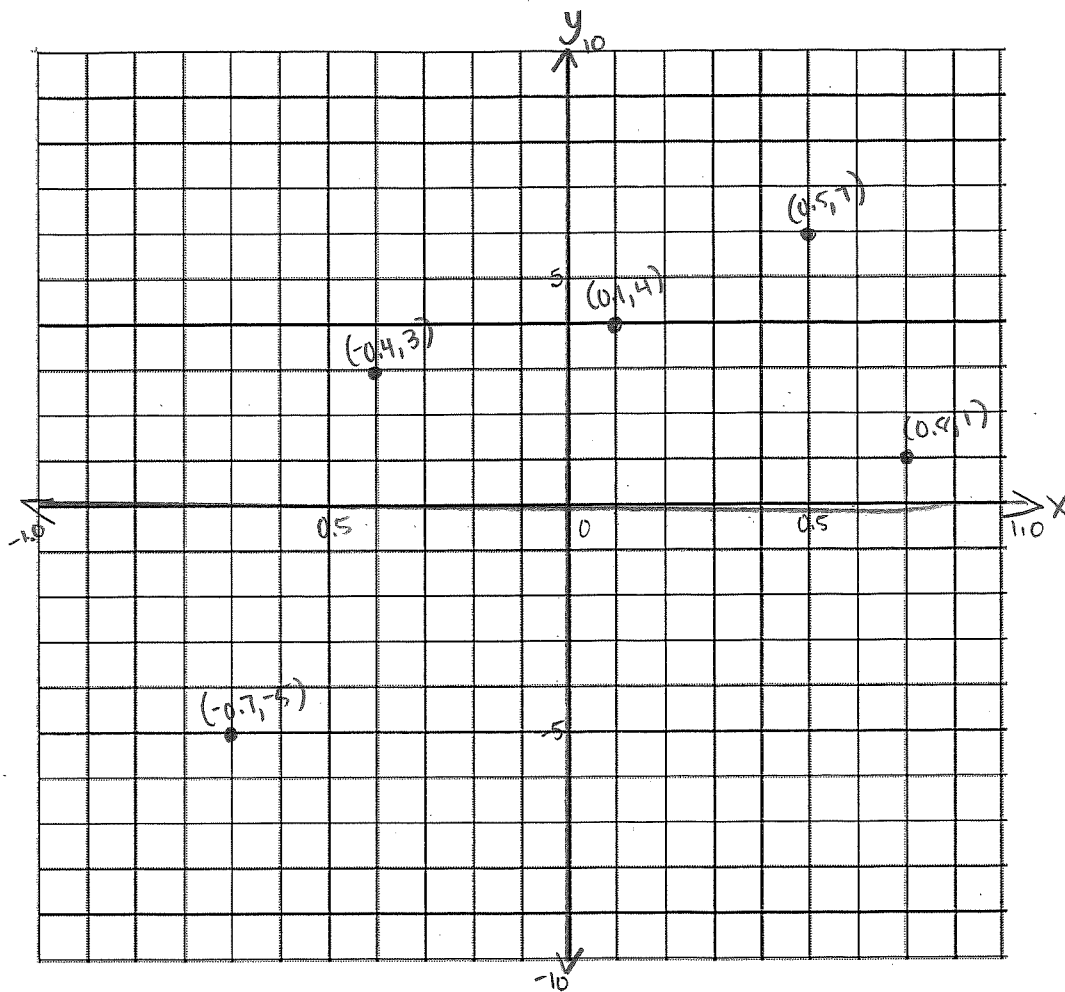
$$\{(-4, 20), (-3, 35), (1, -35), (6, 10), (9, -40)\}$$



**Example 3: Drawing the Coordinate Plane Using a Decreased Number Scale for One Axis**

Draw a coordinate plane on the grid below, and then locate and label the following points:

$$\{(0.1, 4), (0.5, 7), (-0.7, -5), (-0.4, 3), (0.8, 1)\}$$



**Example 4: Drawing the Coordinate Plane Using a Different Number Scale for Both Axes**

Determine a scale for the  $x$ -axis that will allow all  $x$ -coordinates to be shown on your grid.

I will count by 2's on the  $x$ -axis. (-14 to 14),

Determine a scale for the  $y$ -axis that will allow all  $y$ -coordinates to be shown on your grid.

Each grid line will represent  $\frac{1}{2}$  on  $y$ -axis.

Draw and label the coordinate plane then locate and label the set of points.

~~$\{(-14, 2), (-4, -0.5), (6, -3.5), (14, 2.5), (0, 3.5), (-8, -4)\}$~~

