Coordinate Geometry Unit Exam: Question 48

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To use the slopes of the sides of the figure below, we must do the following to prove it is a right triangle:

- Compute both slopes
- Ensure their product is equivalent to -1

By seeing their product is negative 1, we can prove the two slopes are perpendicular hence creating a 90° angle.
The slope of the vertical leg is :

$$\frac{6-1}{1-1} \rightarrow \text{undefined} \tag{1}$$

The slope of the horizontal leg is :

$$\frac{1-1}{4-1} = 0 \tag{2}$$

An undefined slope and a slope equal to 0 are perpendicular just as an x axis and a y axis are perpendicular to each other. Therefore, the triangle is a right triangle.

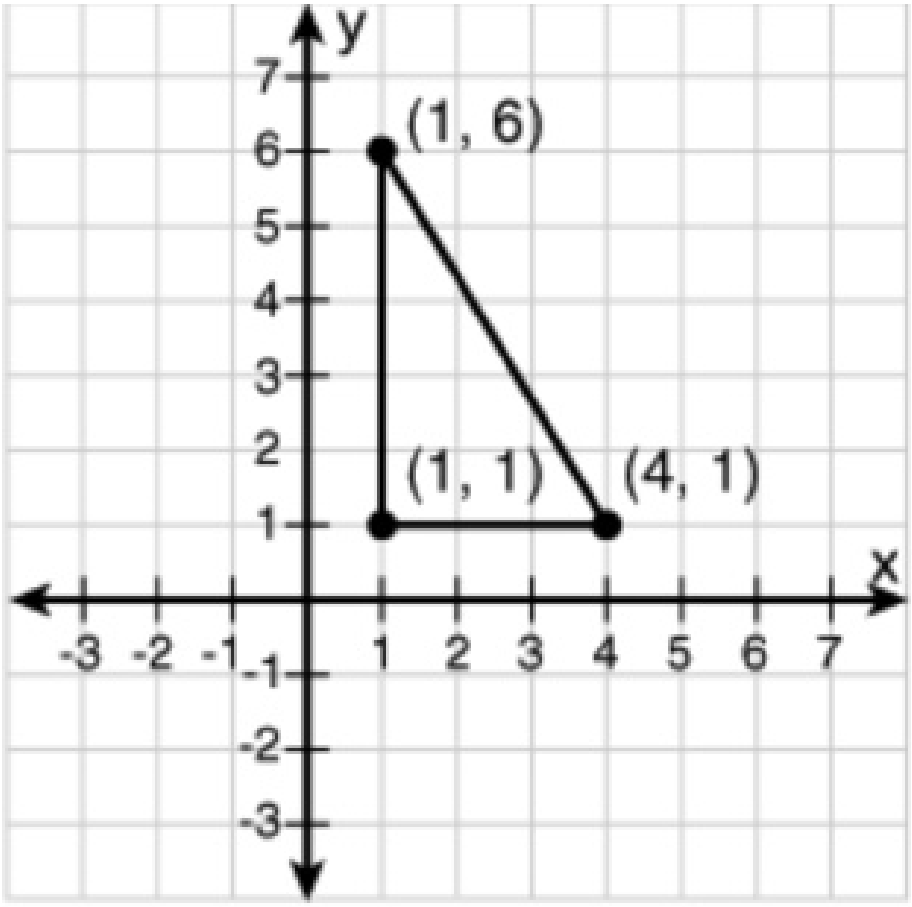

Figure 1: Triangle in Coordinate Plane