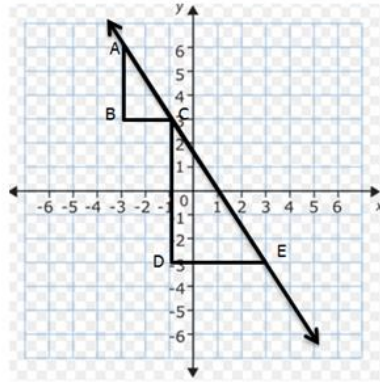


Possible Solutions

Triangle ABC is similar to triangle CDE .



Explain why the slope of the hypotenuse is the same for both right triangles.

Possible Solution 1

- Make ratios of the vertical change to the horizontal change for each of the triangles. If these ratios are the same, the two triangles have the same slope.

$$\frac{AB}{BC} = \frac{-3}{2}$$

$$\frac{CD}{EF} = \frac{-6}{4} = \frac{-3}{2}$$

- Because the ratio of the vertical change compared to the horizontal change for each right triangle is the same, the two triangles have the same slope.

Possible Solution 2

- Slope is frequently talked about as $\frac{\text{rise}}{\text{run}}$. This means to count the number of spaces for the vertical change and compare that to the horizontal change in the points.
- For $\triangle ABC$ this ratio is $\frac{-3}{2}$.
- For $\triangle CDE$ this ratio is $\frac{-6}{4} = \frac{-3}{2}$.

- Because the ratio of the vertical change compared to the horizontal change for each right triangle is the same, the two triangles have the same slope.

Possible Solution 3

- The formula for slope is $\frac{y_2 - y_1}{x_2 - x_1}$, this could be used to verify the slope of each hypotenuse is the same.
- For $\triangle ABC$ A(-3, 6); C(-1, 3)

$$\frac{3 - 6}{-1 - (-3)} = \frac{-3}{2}$$

- For $\triangle CDE$ C(-1, 3); E(3, -3)

$$\frac{-3 - 3}{3 - (-1)} = \frac{-6}{2} = \frac{-3}{2}$$

- The two triangles have the same slope when the slope formula is applied to the hypotenuse.