Dilations: Question 19

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In order to prove that the dilation takes a line passing through the center of the dilation to the same line, we must first visualize the image with respect to the pre-image after the dilation has been performed.

$$A(-2,2), B(1,2), C(1,-1) \tag{1}$$

$$D_{O,2.5} \rightarrow A, B, C = A'(-5,5), B'(\frac{5}{2},5), C'(\frac{5}{2},-\frac{5}{2}) \tag{2}$$

The graphic is shown below. The equation of the line is :

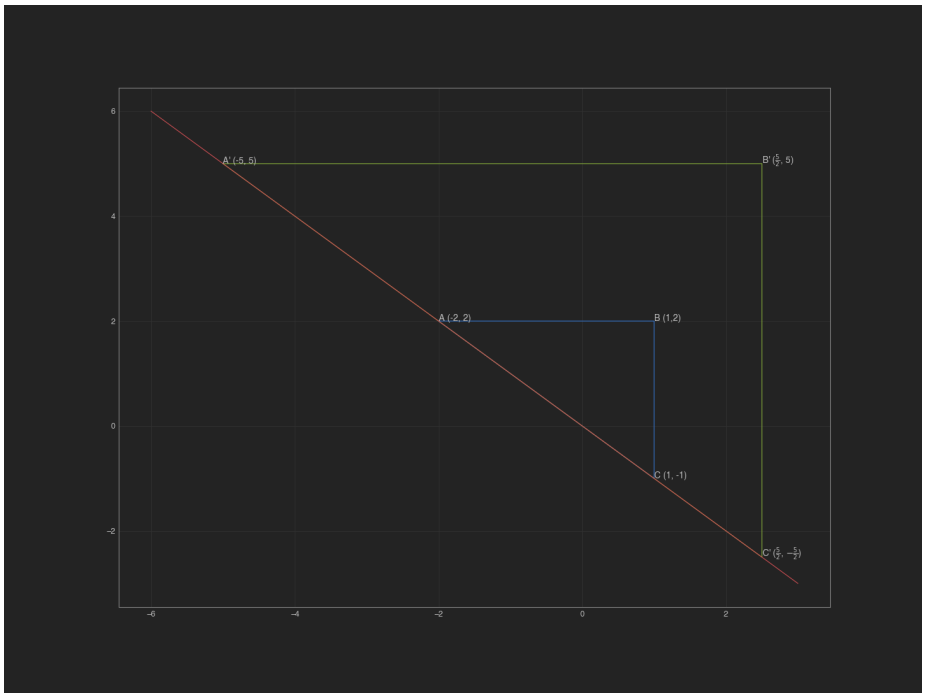

Figure 1: Pre Image and Image of Triangle

$$C(1,-1), O(0,0) \tag{3}$$

$$m = \frac{0-1}{0+1} \tag{4}$$

$$y = -x + b \rightarrow 2 = 2 + b \rightarrow b = 0 \tag{5}$$

$$y = -x \tag{6}$$