Equations of Lines: Question 12

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The image of the square is shown below. The steps for calculating the two equations of the diagonals are as follows:

- Find the slope of one diagonal .
- Find the equation of one diagonal.
- Divide -1 by the slope to get the other diagonal's slope
- Find the equation of the other diagonal.

$$A(-3,3) \tag{1}$$
$$C(3,-3) \tag{2}$$
$$B(3,3) \tag{3}$$
$$D(-3,-3) \tag{4}$$
$$\text{slope\_AC} = \frac{3-(-3)}{-3-3} \rightarrow \frac{6}{-6} = -1 \tag{5}$$
$$\text{slope\_BD} = -1x = -1 \rightarrow x = \frac{-1}{-1} = 1 \tag{6}$$
$$y = mx + b \tag{7}$$
$$3 = -1(-3) + b \rightarrow b = 0 \tag{8}$$
$$-3 = -3(1) + b \rightarrow b = 0 \tag{9}$$
$$AC \rightarrow y = -x \tag{10}$$
$$BD \rightarrow y = x \tag{11}$$

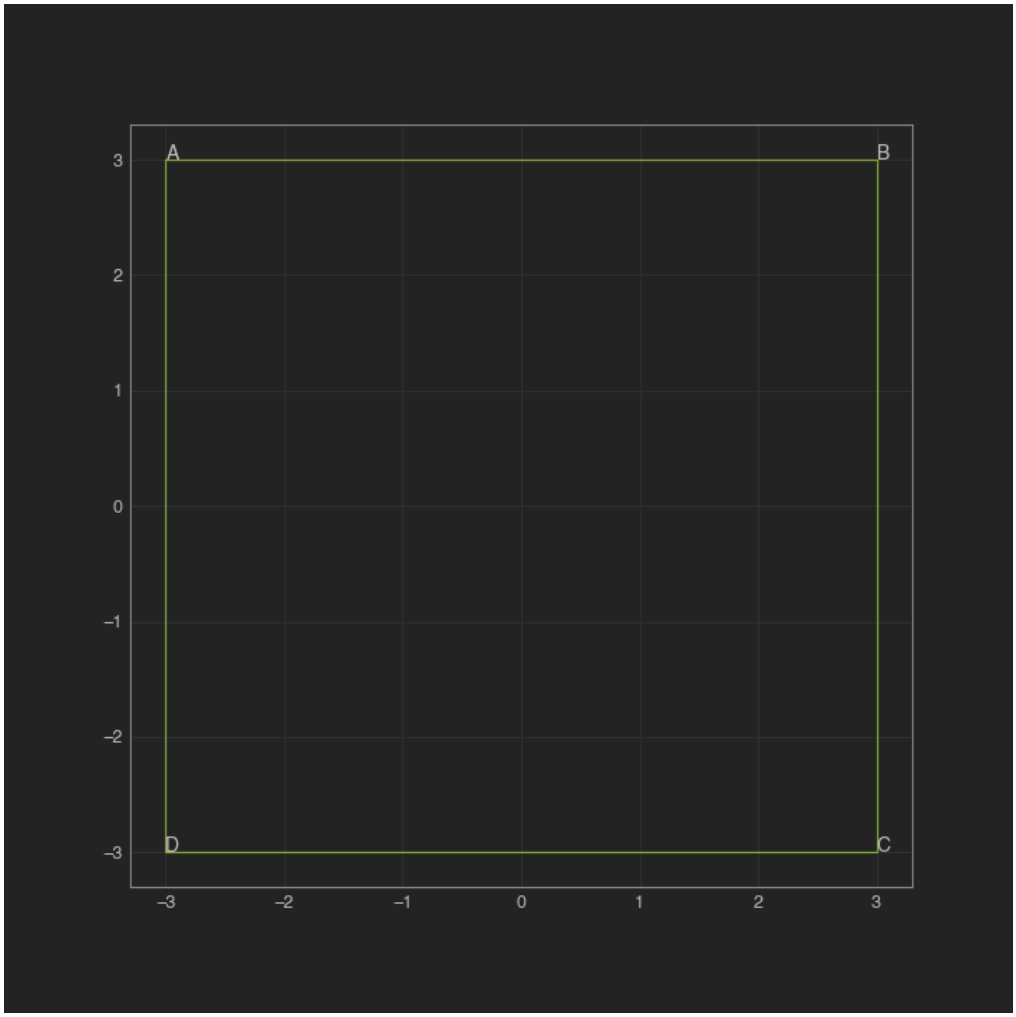

Figure 1: Square with Diagonals