

Transformations Rules

Line Reflections

$$\text{Reflection}_{x\text{-axis}} (x, y) \rightarrow (x, -y)$$

$$\text{Reflection}_{y\text{-axis}} (x, y) \rightarrow (-x, y)$$

$$\text{Reflection}_{y=x} (x, y) \rightarrow (y, x)$$

$$\text{Reflection}_{y=-x} (x, y) \rightarrow (-y, -x)$$

Rotations

$$\text{Rotation}_{90^\circ} (x, y) \rightarrow (-y, x)$$

$$\text{Rotation}_{180^\circ} (x, y) \rightarrow (-x, -y)$$

$$\text{Rotation}_{270^\circ} (x, y) \rightarrow (y, -x)$$

$$\text{Rotation}_{-90^\circ} (x, y) \rightarrow (y, -x)$$

Translations

$$\text{Translation}_{a,b} (x, y) \rightarrow (x + a, y + b)$$

Dilations

$$\text{Dilation}_k (x, y) \rightarrow (kx, ky)$$