

Translation

Rule syntax: $T_{\langle 2, -3 \rangle} \triangle ABC$ $T(x + 2, y - 3) \triangle ABC$

Reflection

Rule syntax: $R_{(y=x)} \triangle ABC$ *Note the upper-case R*

Common Reflections

About the x-axis: $(x, y) \rightarrow (x, -y)$

About y = x: $(x, y) \rightarrow (y, x)$

About the y-axis: $(x, y) \rightarrow (-x, y)$

About y = -x: $(x, y) \rightarrow (-y, -x)$

Rotation

Rule syntax: $r(20^\circ, pt)(\triangle ABC)$ *Note the lower-case r*

Rotation about the origin

$90^\circ:$ $(x, y) \rightarrow (-y, x)$

$180^\circ:$ $(x, y) \rightarrow (-x, -y)$

$270^\circ:$ $(x, y) \rightarrow (y, -x)$

$360^\circ:$ $(x, y) \rightarrow (x, y)$

Dilation

Rule syntax: $D_{(scale, pt)} \triangle ABC$

Dilation with scale s from the origin

$(x, y) \rightarrow (s \cdot x, s \cdot y)$

$scale = \frac{\text{image size}}{\text{original size}}$