Dilation - transformation that produces an image that is the _Same Shape_ as the original but _not the same size_.

- A dilation is _Similar_ to the original figure.

- Dilations are centered around the origin (0, 0), unless otherwise stated.

Scale factor – is $\dfrac{\text{image length}}{\text{pre - image length}}$, which is a _ratio_.

- If the scale factor is <u>greater than 1</u>, the figure becomes _larger_.

- If the scale factor is <u>between 0 and 1</u>, the figure becomes _Smaller_.

Rule: $(x, y) \rightarrow (fx, fy)$ where f represents the scale factor.

Example 1: If the scale factor is 3, how would you write the rule?

$$(x,y) \rightarrow (3x, 3y)$$