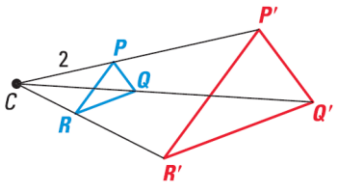
Geometry

4.5 Identify and Perform Dilations

Dilation

- _____ or _____
- Image is _____ to preimage
- _____ is k
  - If $0 < k < 1$, then _____
  - If $k > 1$, then _____
- The image point P' lies on $\overrightarrow{CP}$. The scale factor k is a positive number such that $k = \frac{CP'}{CP}$ and $k \neq 1$

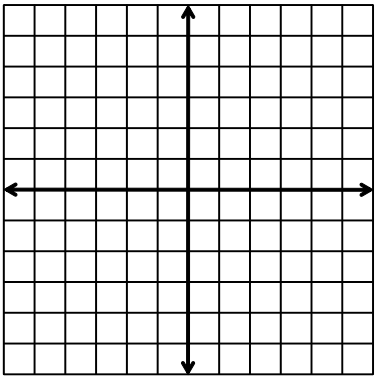


- Scale factor is _____

Coordinate Rule for Dilations

- (x, y) → _____
- Where k is the _____ factor

Graph $\triangle PQR$ with vertices $P(4, 6)$, $Q(-4, 2)$, and $R(2, -6)$ and its image after a dilation with a scale factor of 0.5.



Draw and label ΔRST, then construct a dilation of ΔRST with R as the center of dilation and a scale factor of 3.

1. Draw ΔRST, then draw rays $\overrightarrow{RS}$ and $\overrightarrow{RT}$

2. Using a ruler, measure RS. Multiply by the scale factor. Using the ruler mark this length RS' on $\overrightarrow{RS}$. Repeat for the other rays.

3. Draw ΔR'S'T'

You are using a magnifying glass that shows the image of an object as three times the object's actual size. Determine the actual length of a spider when the image of the spider seen through the magnifying glass is 6.75 centimeters long.

Assignment: 204 #2, 4, 6, 8, 10, 14, 16, 18, 20, 22, 24, 26, 28, 34, 38, 50, 52, 55, 56, 59 = 20