

6. A blueprint for a house uses a scale factor of $\frac{1}{20}$.

$$3.1 \cdot 3.4$$
$$A = 10.54 \text{ m}^2$$

a. If the dimensions of the actual kitchen are 3.1 m by 3.4 m, what are the dimensions of the kitchen on the blueprint?

$$\frac{1}{20} = \frac{x}{3.1}$$

$$20x = 3.1$$

$$x = .155 \text{ m}$$

$$\frac{1}{20} = \frac{y}{3.4}$$

$$20y = 3.4$$

$$y = .17 \text{ m}$$

$$(.155)(.17)$$

$$0.02635 \text{ m}^2$$

b. What is the relationship between the area of the actual kitchen and the area of the kitchen on the blueprint?

Area of Blueprint 400 times Smaller

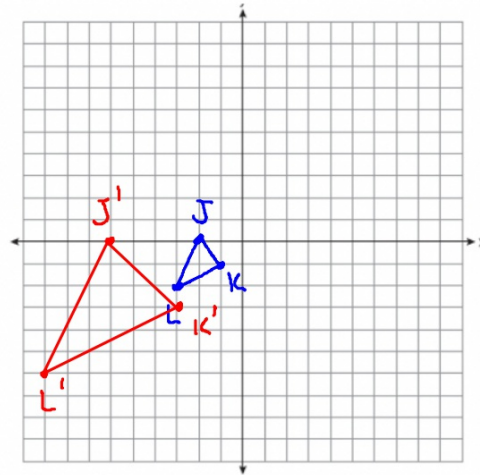
1. Graph the pre and post image of each triangle after a dilation with the given scale factor. Verify that the image is similar. Explain what happens to the areas and perimeters.

$J(-2, 0)$, $K(-1, -1)$, $L(-3, -2)$, scale factor of 3.

$$J'(6, 0) \quad K'(-3, -3) \quad L'(-9, -6)$$

Perimeter from JKL to $J'K'L'$ is 3 times bigger

Area from $\triangle JKL \rightarrow \triangle J'K'L'$
is 9 times bigger
 \uparrow
 3^2



2. Triangle ABC has coordinates A (-6, 3), B(9, 3), C(0, -9). On the set of axes below, graph and label the post image triangle with a scale factor of $\frac{1}{3}$. Discuss the areas and perimeters.

$$A'(-2, 1) \quad B'(3, 1)$$

$$C'(0, -3)$$

From $\triangle ABC \rightarrow \triangle A'B'C'$ the
Perimeter got 3 times smaller

From $\triangle ABC \rightarrow \triangle A'B'C'$ the
area got 9 times smaller

