Name: _____

Lesson Guide

This lesson guide accompanies the following video lesson:

Geometry Transformations: Dilations

In geometry, dilation is a _____ or a _____ of an image.
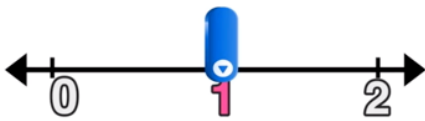
A dilation is NOT a change _____ or _____.

▶ **Scale Factor**

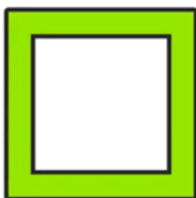**Notation:** When dilating an image with a scale factor **K**:

$$D_K$$
$$P(x,y) \longrightarrow P'(Kx, Ky)$$

Scale Factor: The scale factor **K** will determine whether a dilation results in an image getting larger (stretch) or smaller (shrink).
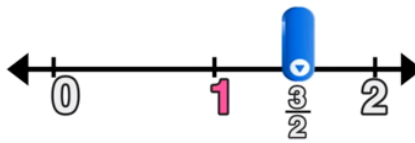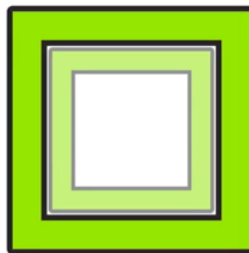
K=1	**K>1**	**0<K<1**

When the scale factor K=1, the image is unchanged.
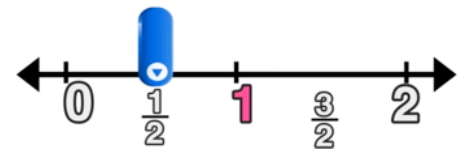
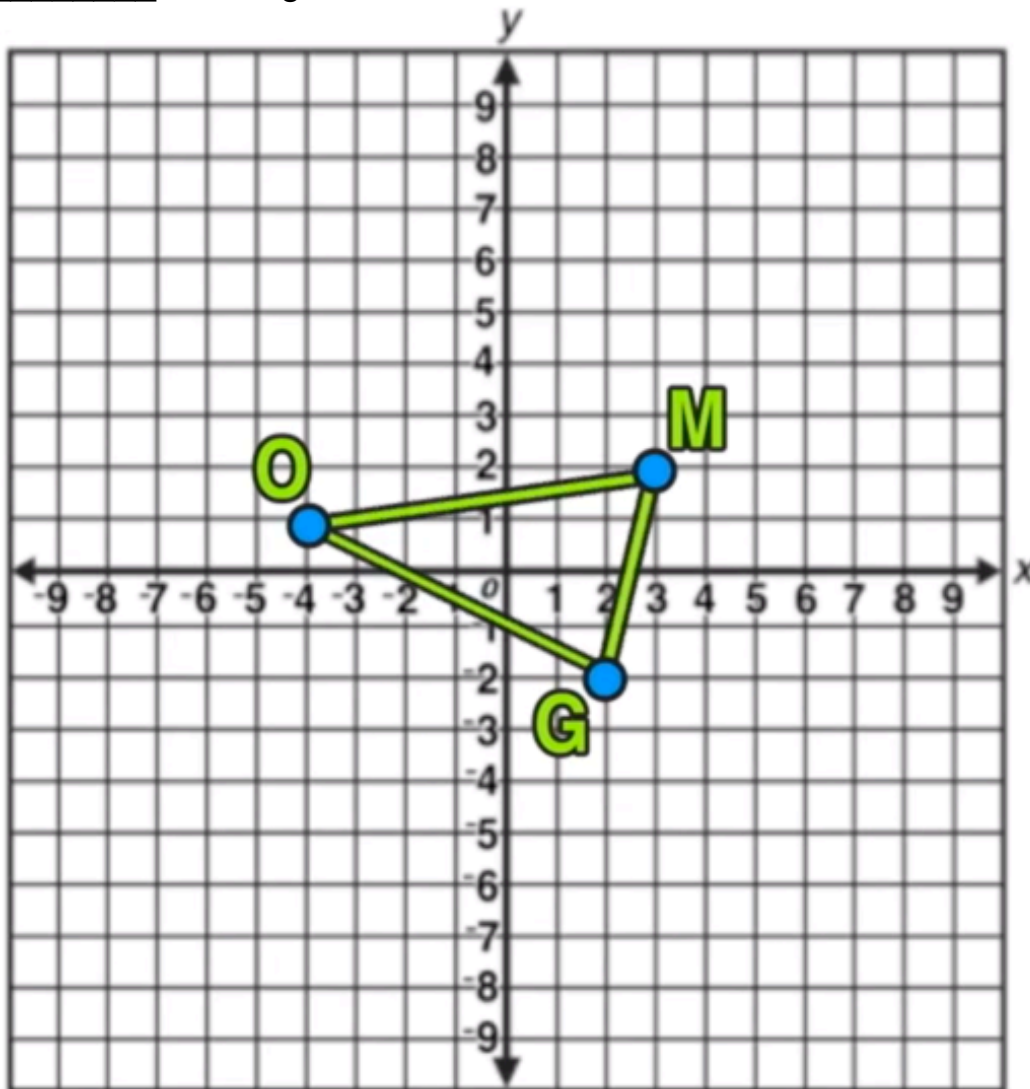When the scale factor K>1, the image is stretched to a larger size.

When the scale factor 0<K<1, the image shrinks to a smaller size. K can not equal zero or a negative number.

➢ **Example 01:**

Perform the following dilation on △OMG: D_2

In this example, the scale factor is _____. Since K _____ 1, the figure will be

_____ to a larger size.

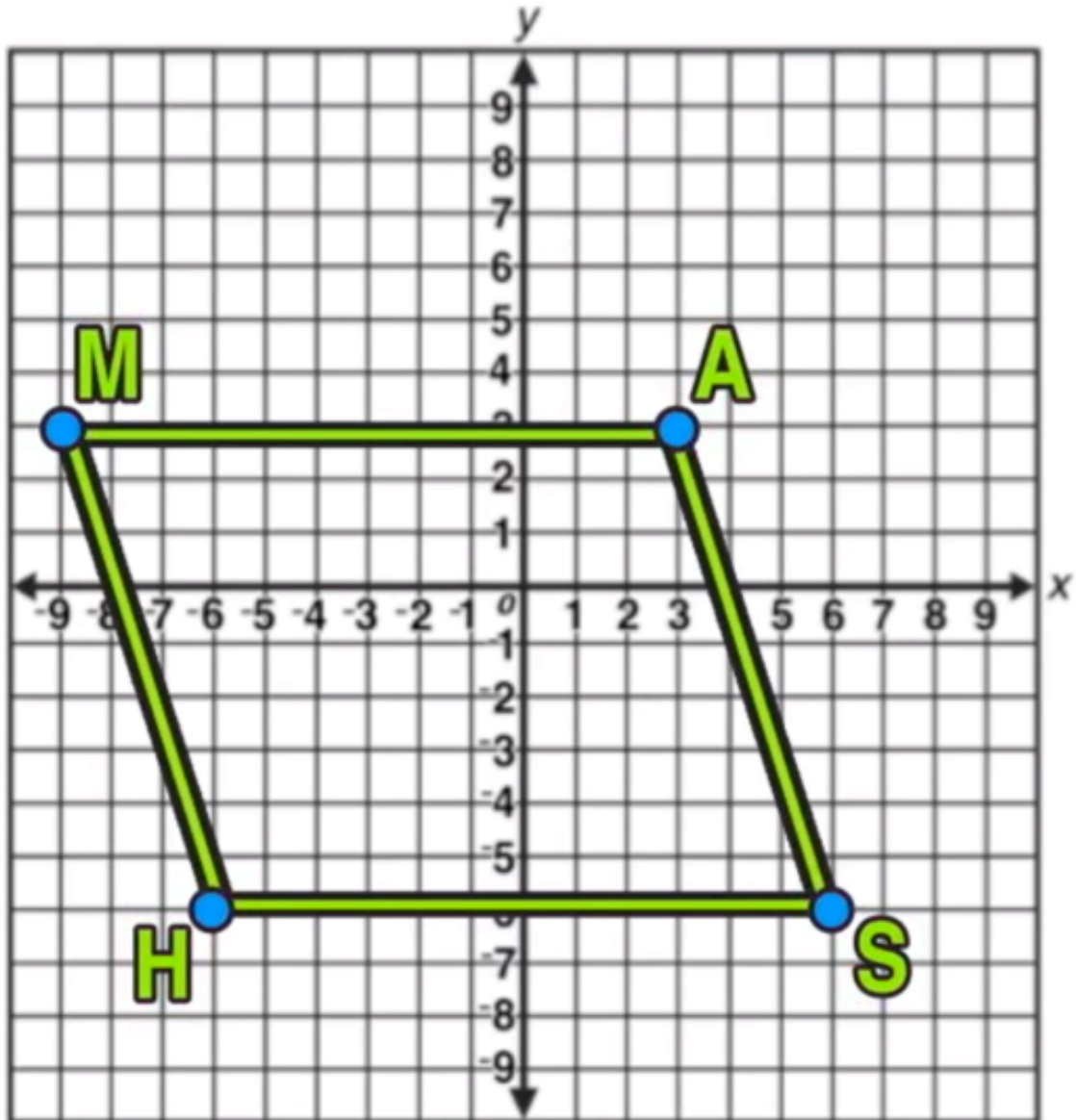**O' (_____, _____) , M' (_____, _____) , G' (_____, _____)**

Perform the following dilation on △OMG: $D_{\frac{1}{3}}$

In this example, the scale factor is _____. Since K _____ 1, the figure will be

_____ to a larger size.

M' (_____, _____) , **A'** (_____, _____) , **S'** (_____, _____), **H'** (_____, _____)