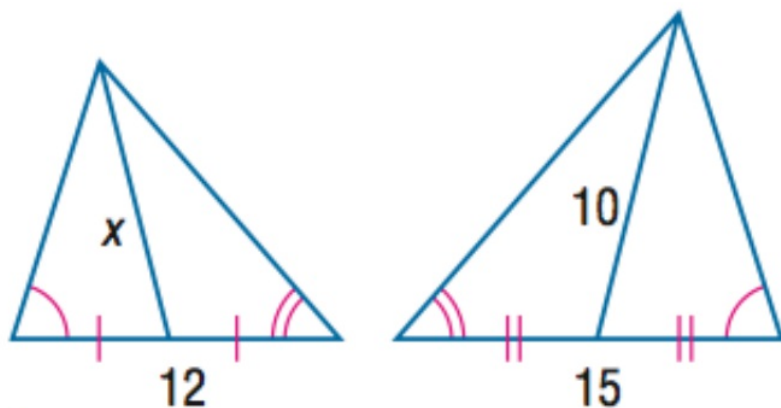


# Geometry

# BELL WORK

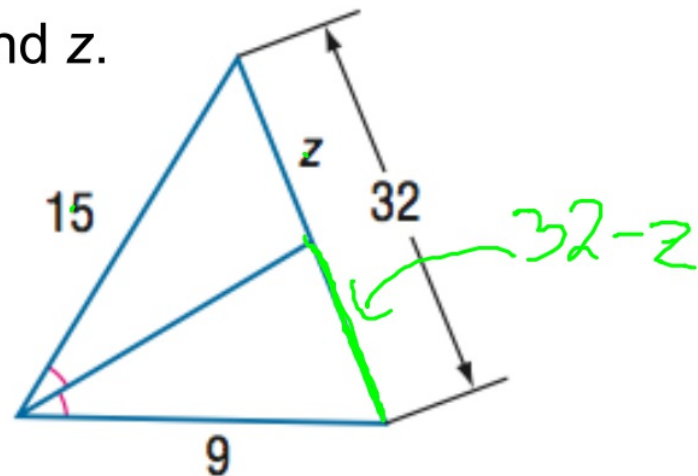
1) Find x.



$$\frac{x}{12} = \frac{10}{15}$$
$$\frac{120}{15} = \frac{15x}{15}$$

$$8 = x$$

2) Find z.



$$\frac{15}{z} = \frac{9}{32-z}$$

$$9z = 15(32-z)$$

$$9z = 480 - 15z$$

$$+15z \qquad +15z$$

$$\frac{24z}{24} = \frac{480}{24}$$

$$z = 20$$

## 7-6 Similarity Transformations

Today you will: Identify similarity transformations and verify similarity after a transformation.

**Content standard: G-SRT Similarity: Understand similarity in terms of similarity transformations**

A **dilation** is a transformation that **enlarges** or **reduces** the original figure **proportionally**. Since a dilation of produces a similar figure, a dilation is a type of **similarity transformation**.

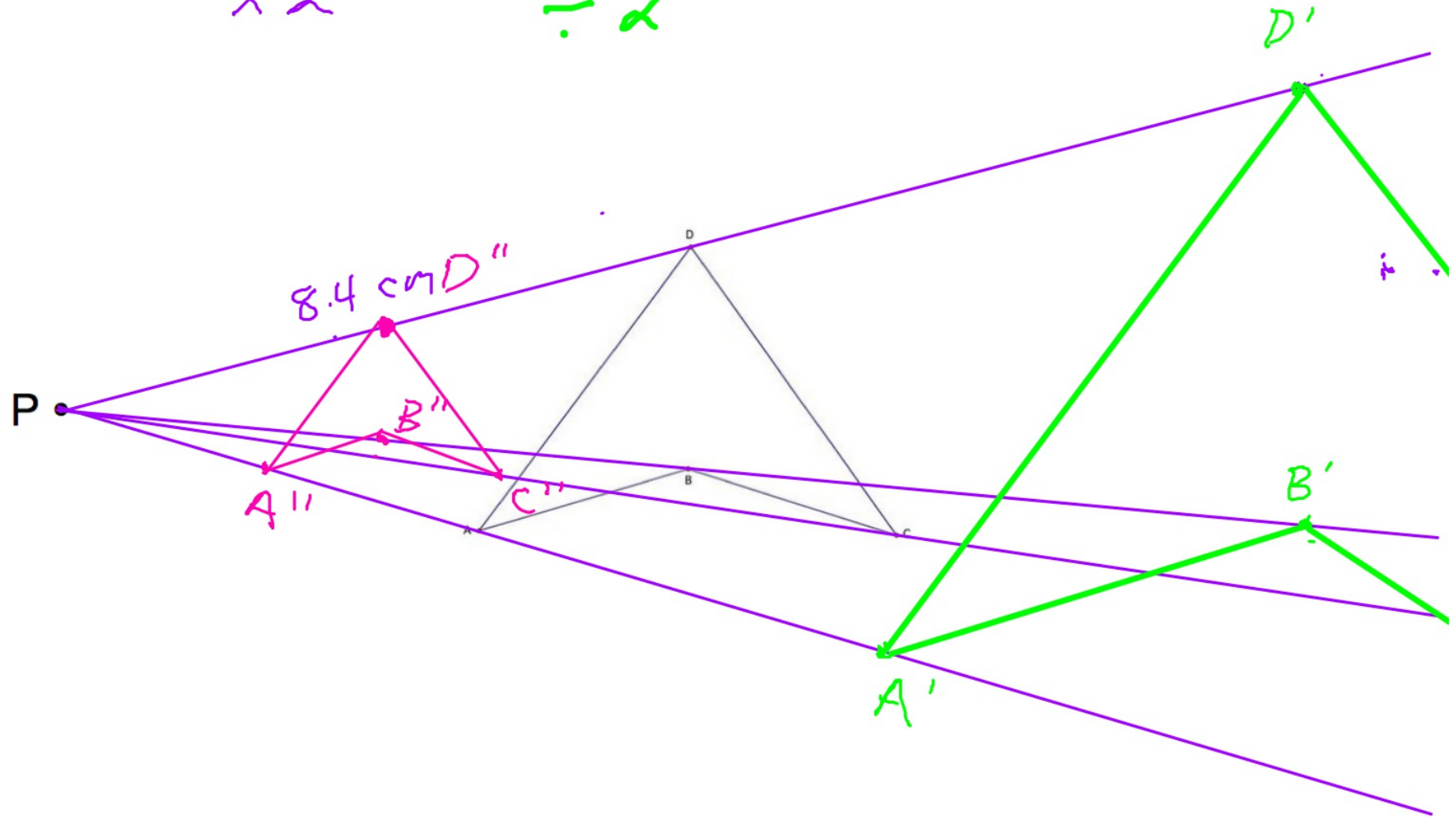
To perform a dilation:

- 1) Set a fixed point from which you will dilate the figure.
- 2) Draw rays connecting this point to each vertex of the figure.
- 3) Measure the ~~same~~ distance along each ray to transform each vertex. *by the scale factor*

Create an enlargement and a reduction of quadrilateral ABCD from point P.

$\times 2$

$\div 2$



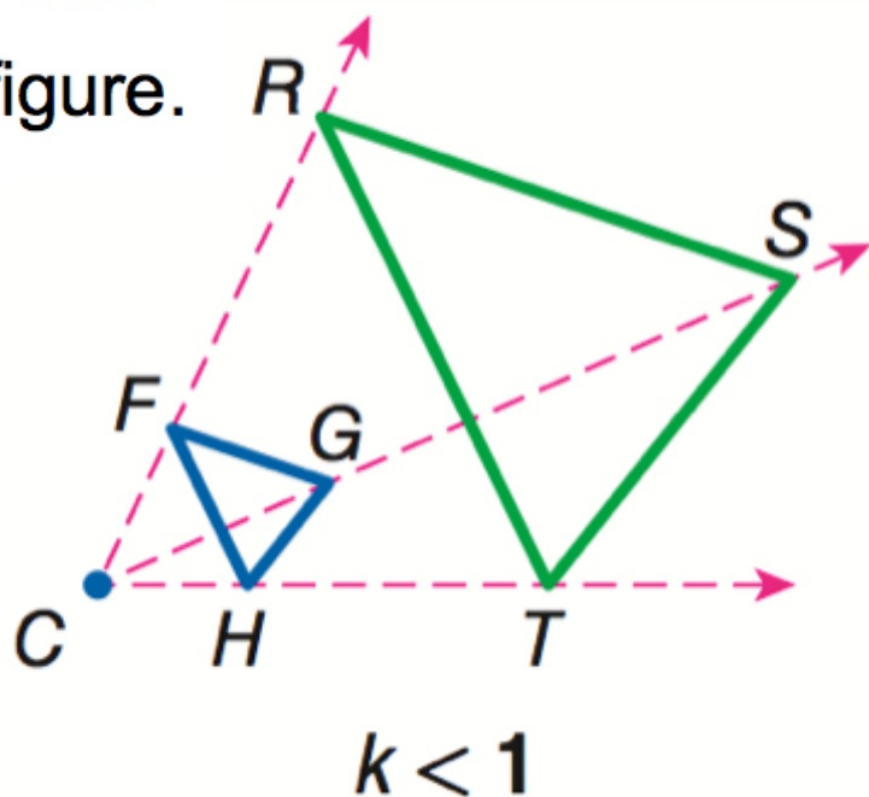
"

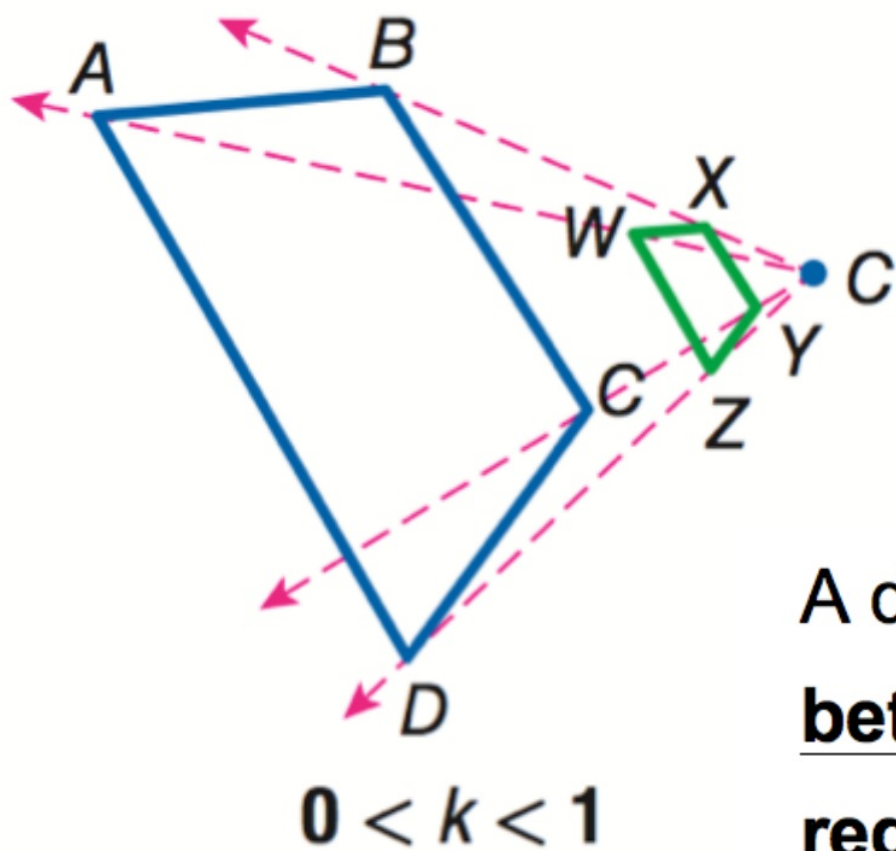
The **center of dilation** is the fixed point of the dilation.

(point  $P$  above)

The **scale factor** of a dilation is the ratio of the original figure, called the **preimage** to the new figure, called the **image**.

A dilation with a scale factor **greater than 1** produces an **enlargement**, or an image that is **larger** than the original figure.

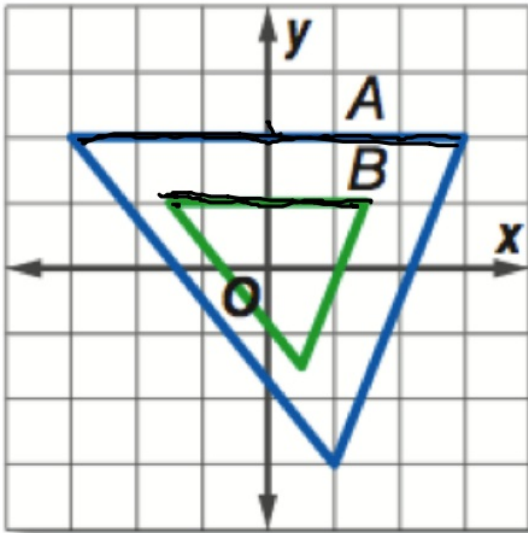




A dilation with a scale factor between 0 and 1 produces a reduction, an image that is smaller than the original figure.



a.

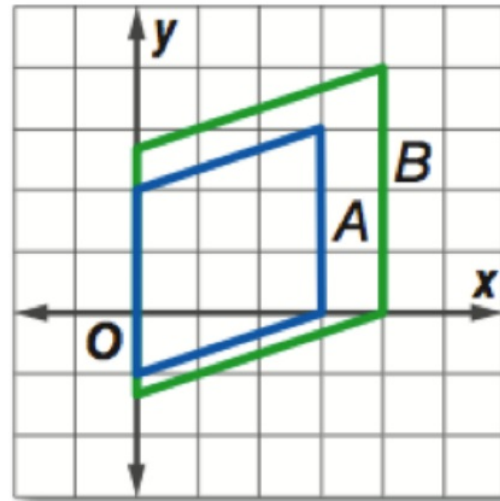


reduction

3 : 6

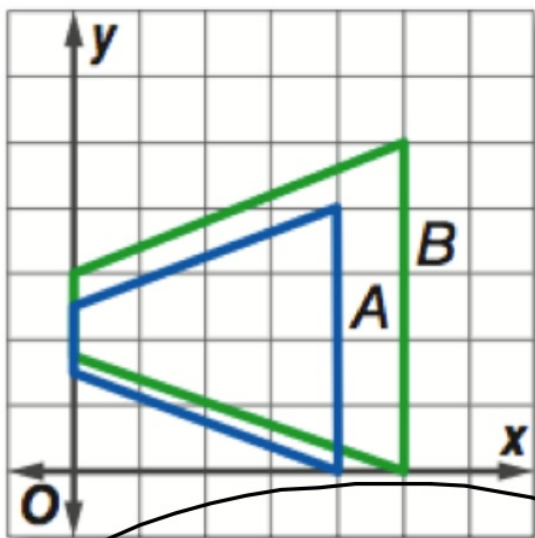
$\frac{1}{2}$

b.



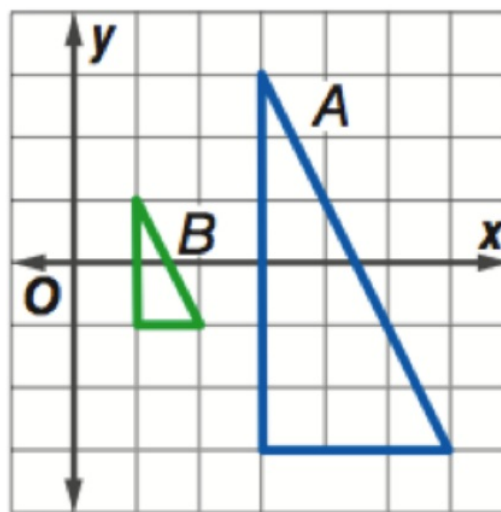
enlargement  
4 : 3

1A.



enlargement  
 $\frac{5}{4}$

1B.



reduction  
 $\frac{2}{6} = \frac{1}{3}$

Assignment: **Draw a Dilation** worksheet



