HWK #5 will be due on Tuesday.

you'll need some graph paper.

Sec 9-5

Dilation: When the preimage is enlarged or reduced in size to create the image.
(they are similar figures)

Scale Factor: The ratio of a measure in the image to a corresponding measure in the preimage.

$$\text{Scale Factor} = \frac{\text{Image}}{\text{Preimage}} = \frac{\text{After}}{\text{Before}}$$

Center of Dilation: Point of intersection of all lines that connect corresponding vertices of the preimage and image.

Given each scale factor tell if it represents a reduction or an enlargement.

1. 4:1 Enlargement
2. 1:3 Reduction
3. 8:7 Enlargement
4. $\frac{12}{17}$ Reduction
5. 0.66 Reduction

To describe a dilation:

- State if it's a reduction or enlargement
- Give center of dilation
- Give scale factor

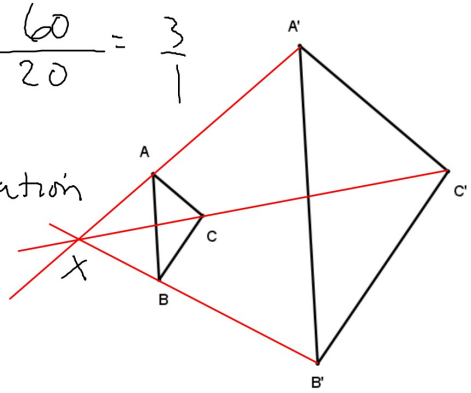
1. Find the Center of Dilation and label it pt X.
2. Find the scale factor.

AB=20
A'B'=60

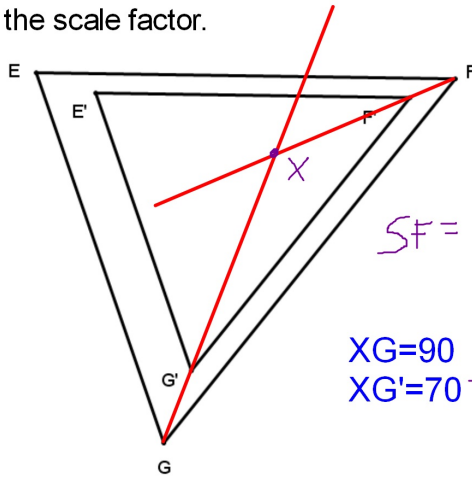
$\frac{60}{20} = \frac{3}{1}$

Enlargement
Center of Dilation is pt X

S.F. $\frac{3}{1}$



1. Find the Center of Dilation and label it pt X.
2. Find the scale factor.

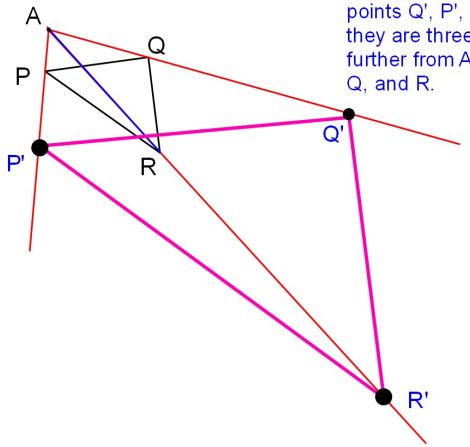


$SF = \frac{70}{90} \quad \frac{7}{9}$

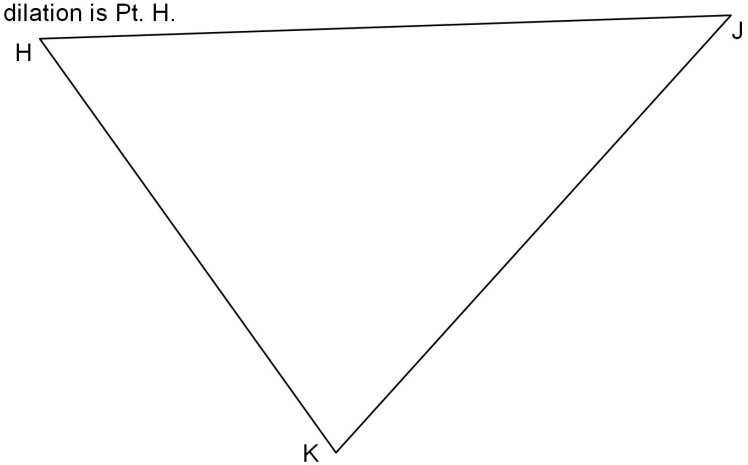
XG=90
XG'=70

Dilate triangle PQR with a scale factor of 3:1
The center of dilation is point A.

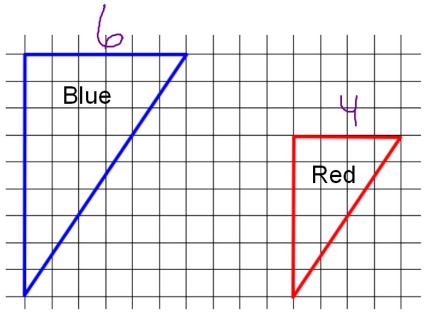
Connect A with all vertices on the preimage. Locate points Q', P', and R' so that they are three times further from A than points P, Q, and R.



Dilate triangle HJK with a scale factor of 1:4. The center of dilation is Pt. H.

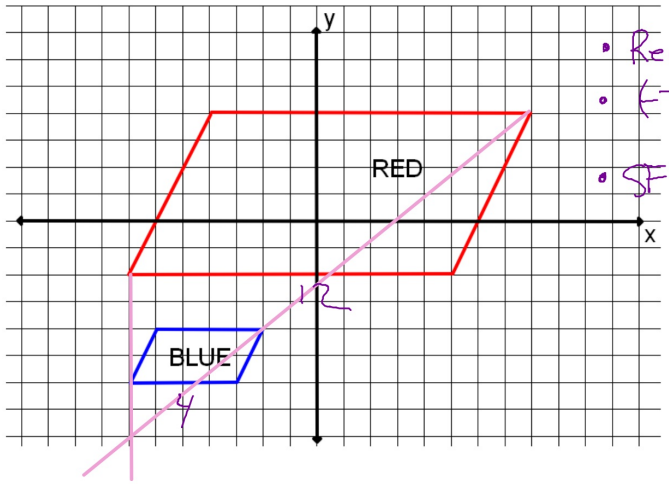


The blue figure is the image and the red figure is the preimage.
Find the scale factor.



$\frac{6}{4} = \frac{3}{2}$

The blue figure is the image and the red figure is the preimage.
Describe the dilation.



- Reduction
- $(-7, -8)$
- SF $= \frac{1}{3}$