

Name: Key

Period: _____

Checkpoint 6A

Integrated Math 2

Answer the questions thoroughly including any necessary math or explanations.

1) Determine the lengths of the dilated segments given the pre-image length and the scale factor.

a) \overline{BC} is 13.5 units long and the segment is dilated by a scale factor of $k = 0.75$.

$\overline{B'C'} = 10.125$ units

b) \overline{FG} is 19 units long and the segment is dilated by a scale factor of $k = 1.5$.

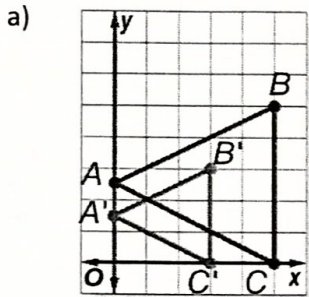
$\overline{F'G'} = 28.5$ units

c) \overline{GH} is 15.3 units long and is dilated by a scale factor of $\frac{2}{3}$.

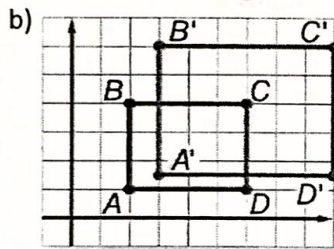
$\overline{G'H'} = 10.2$ units

2) On each graph, one figure is a dilation of the other. Find the scale factor of each dilation and classify it as an enlargement or as a reduction.

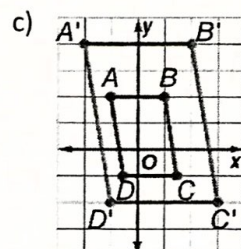
S.F. = $\frac{\text{new}}{\text{original}}$



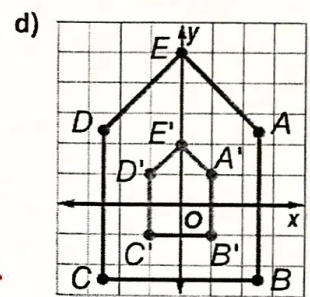
Reduction
SF = $\frac{3}{5}$



Enlargement
SF = $\frac{3}{2}$

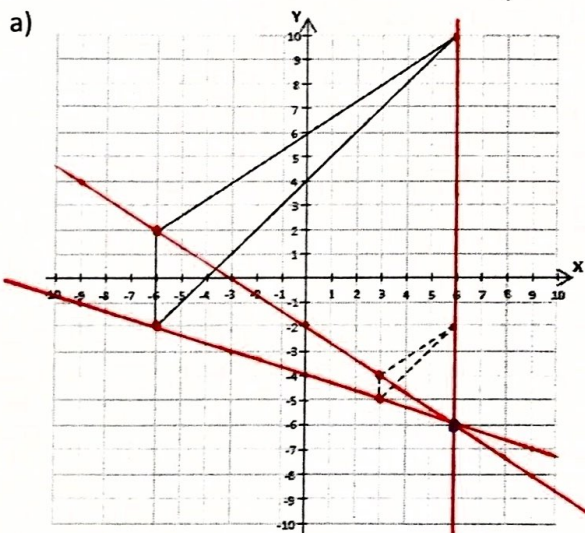


Enlargement
SF = 2

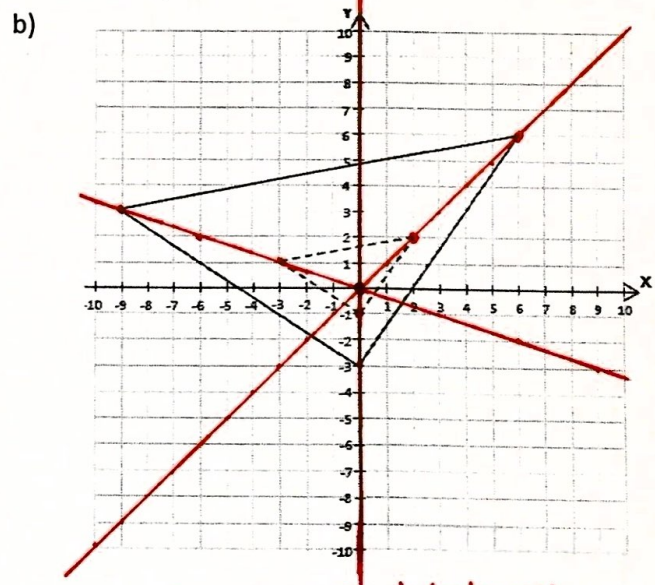


Reduction
SF = $\frac{2}{5}$

3) Determine the center of each dilation.



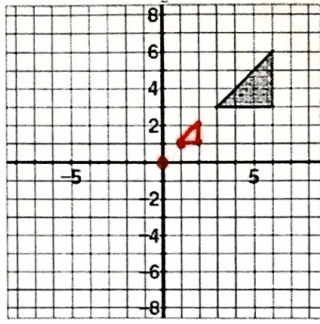
Center of dilation:
(6, -6)



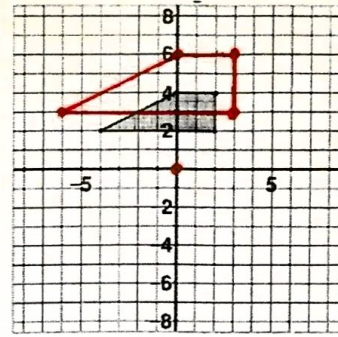
Center of dilation:
(0, 0)

4) Dilate the graphed figure with a center of $(0, 0)$ and the given scale factor.

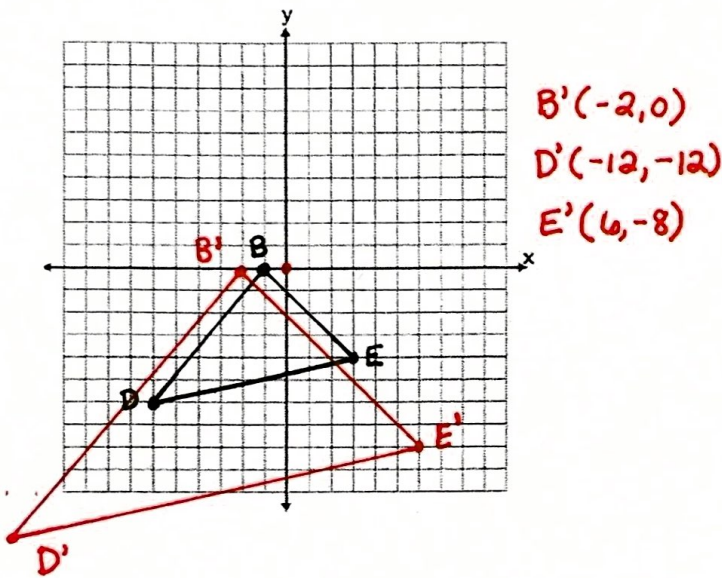
a) Scale factor: $\frac{1}{3}$



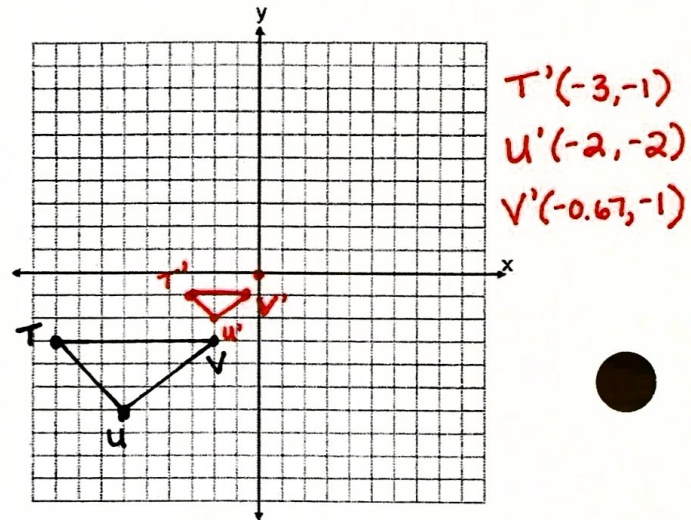
b) Scale factor: $\frac{3}{2}$



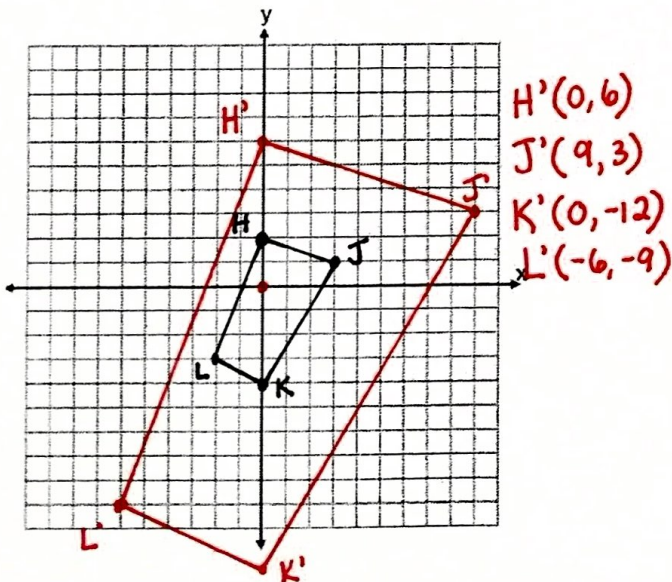
5) Graph $\triangle BDE$ with the following vertices: $B(-1, 0)$, $D(-5, -6)$, and $E(3, -4)$. Graph an image of a dilation with a center at $(0, 0)$ and a scale factor of 2 . Label the vertices of the image.



6) Graph $\triangle TUV$ with the following vertices: $T(-9, -3)$, $U(-6, -6)$, and $V(-2, -3)$. Graph an image of a dilation with a center at $(0, 0)$ and a scale factor of $\frac{1}{3}$. Label the vertices of the image.



7) Graph $\triangle HJK$ with the following vertices: $H(0, 2)$, $J(3, 1)$, $K(0, -4)$, $L(-2, -3)$. Graph an image under a dilation with a center at $(0, 0)$ and a scale factor of 3 . Label the vertices of the image.



8) Graph $\square ABCD$ with the following vertices: $A(-6, 2)$, $B(4, 4)$, $C(7, -2)$, and $D(-2, -4)$. Graph an image of a dilation with a center at $(0, 0)$ and a scale factor of $\frac{1}{2}$. Label the vertices of the image.

