Name: _____ Period: A B C D E F Date: _____

Assessment Review: Module 1 Topic 2 – Similarity

1 Triangle *DEF* has vertices *D*(-4, 1), *E*(2, 3), and *F*(2, 1) and is dilated by a factor of 3 using the origin as the point of dilation. The dilated triangle is named Δ*D'E'F'*. What are the coordinates of the vertices of the resulting triangle? Write the rule for this dilation below.

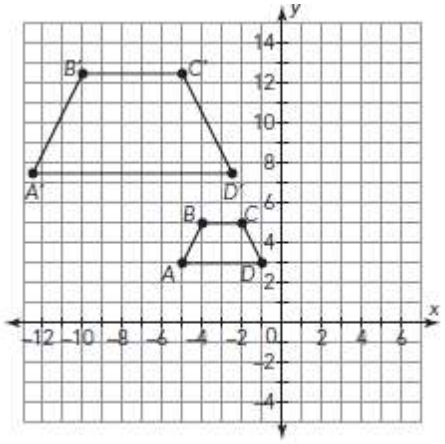
D' (_____, _____)

E' (_____, _____)

F' (_____, _____)

Rule: (X, Y)----> _____

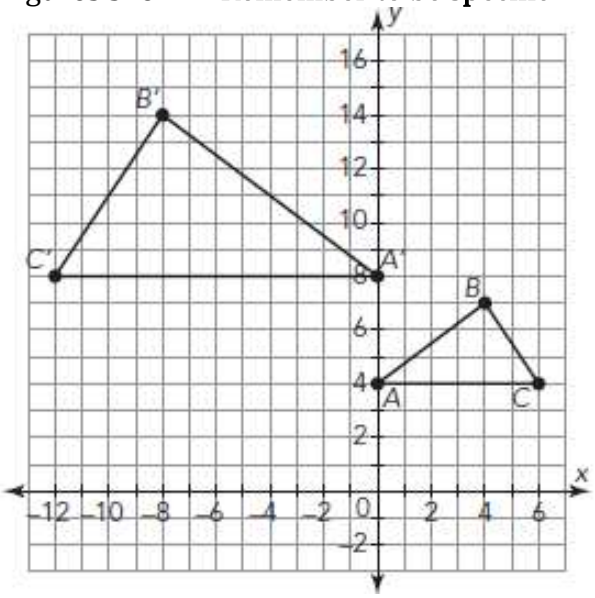
2 Trapezoid ABCD is dilated to form trapezoid A'B'C'D'. **Without calculating the scale factor**, explain if the dilation is an enlargement or reduction and how you know this.



Circle one: Enlargement Reduction

I know this because _____
_____
_____
_____

3 *Describe* a sequence of transformations that exhibits the similarity between the pair of figures shown. **Remember to be specific**.



1) _____
_____

2) _____
_____

4 Triangle *ABC* is dilated to produce triangle *A'B'C'* with scale factor ¾. Which describes the relationship between the two triangles. Circle one below:

a. Δ*A'B'C'* is an enlargement of Δ*ABC*.

b. Δ*A'B'C'* is a reduction of Δ*ABC*.

c. Δ*A'B'C'* ≅ Δ*ABC*

d. Δ*A'B'C'* is a mirror image of Δ*ABC*.

Write the rule for the dilation described above:

Rule: (X, Y)----> _____

5 Which must be *true* of a scale factor of a dilation if the image is smaller than the original figure?

a. The scale factor is negative.
b. The scale factor is between -1 and 0.
c. The scale factor is between 0 and 1.
d. The scale factor is positive.

6 Triangle *FUN*, with vertices *F*(-6, 9), *U*(0, -6), and *N*(-3, -12) was dilated to form triangle *PET* with vertices *P*(-4, 6), *E*(0, -4), and *T*(-2, -8). What is the scale factor for this dilation?

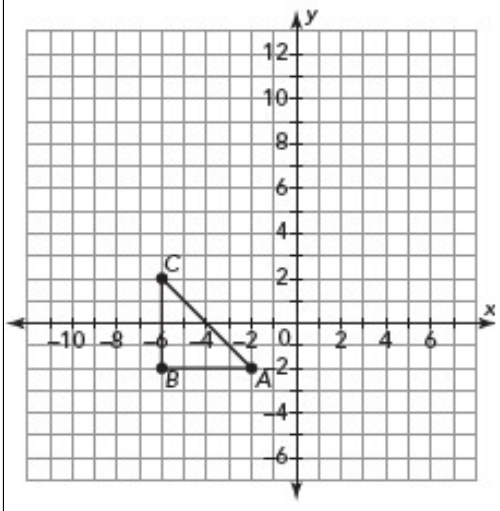
Scale factor: _____

This dilation is a(n):

Circle one: Enlargement Reduction

7 Triangle ABC has vertices with coordinates A(-2, -2), B(-6, -2), and C(-6, 2).

a. Dilate ΔABC on the coordinate plane using the origin as the center of dilation and a scale factor of ½ to form ΔA'B'C'.



b. What are the coordinates of A', B', and C'?

A'_____ B' _____ C' _____

c. How did you determine the coordinates of the vertices of the dilated image?

_____
_____
_____
_____

d. Is the dilation an enlargement or a reduction? Explain your reasoning.

_____
_____
_____
_____

e. What is the relationship between Δ*ABC* and ΔA'B'C'?

_____

8 Determine whether the statements are **sometimes**, **always**, or **never true**.

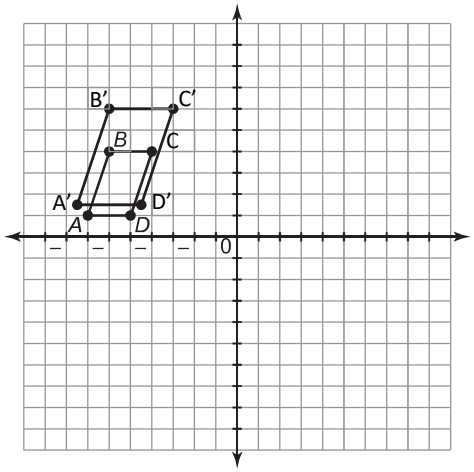
a. The angles of dilated figures are congruent to the original figure. _____

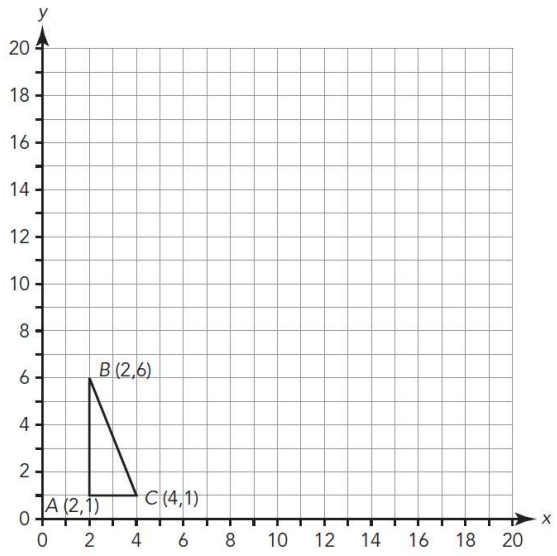
b. The shape of dilated figures are the same. _____

c. The size of dilated figures are the same. _____

d. Dilations can be enlargements of the original figure. _____

e. Dilations can be reductions of the original figure. _____

9	A shape is dilated with the center of dilation as the origin. Point M is on the shape and M' is the corresponding point on the image of the dilation. Point M is at (-3, 5) and M' is (-6, 10). What is the scale factor and how do you know? M (-3, 5) ---> M' (-6, 10) Scale factor: _____ This dilation is a(n): **Circle one**: Enlargement Reduction
10	Parallelogram ABCD is transformed to create parallelogram A'B'C'D'. Which of the following shows the sequence of transformations needed to create A'B'C'D'.  A. Dilation by a factor of $\frac{3}{2}$ about the origin and a translation of 3 units right. B. Dilation by a factor of $\frac{2}{3}$ about the origin and a translation 3 units right. C. Dilation by a factor of $\frac{3}{2}$ about the origin and a translation 3 units left. D. Dilation by a factor of $\frac{2}{3}$ about the origin and a translation 3 units left.

11	Dilate Triangle **ABC** on the coordinate plane using point **the origin** as the center of dilation and a scale factor of 3. **Draw and label**. A (2, 1) ---> A' _____ B (2, 6) ---> B' _____ C (4, 1) ---> C' _____ This dilation is a(n): **Circle one**: Enlargement Reduction **Rule**: (X, Y)----> _____ 
12	Determine the scale factor of each dilation. a) A (7, -3) ----> A' (35, -15) Scale factor: _____ b) M (-14, -8) ----> M' (-7, -4) Scale factor: _____ c) Z (-12, 4) ----> Z' (-18, 6) Scale factor: _____ d) Q (0, 12) ----> Q' (0, 6) Scale factor: _____ e) R (-7, 5) ----> R' (-21, 15) Scale factor: _____ f) P (-24, -16) ----> P' (-6, -4) Scale factor: _____