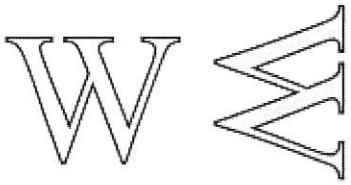
Name: Key Hour: _____

8th Grade Math Unit 5 REVIEW

1. Tell whether the shaded figure is a *translation, reflection, rotation,* or *dilation* of the non-shaded figure.

a.



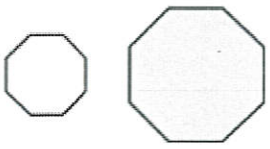
Rotation

b.

Translation

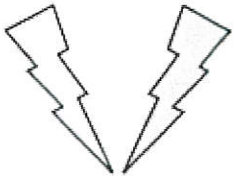
1 pt. each.

c.



dilation

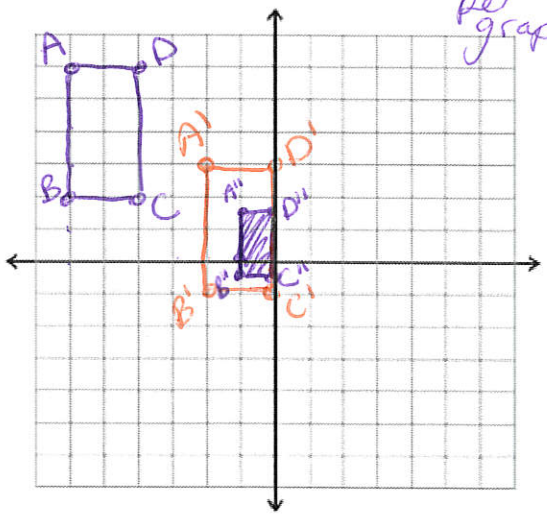
d.



reflection

(5) 2. a. Graph the following points on a coordinate plane. Translate the shape using the rule *(x, y)*→ (x+4)(y-3), then dilate the result using the rule *(0.5x, 0.5y)*. Complete both the coordinates and the graphs for both transformations. ½ pt per graph

Original	Translation (1pt.)	Dilation (1pt.)
A (-6, 6)	**A'**(-2, 3)	**A"**(-1, 1.5)
B (-6,2)	**B'**(-2, -1)	**B"**(-1, -0.5)
C (-4, 2)	**C'**(0, -1)	**C"**(0, -0.5)
D (-4, 6)	**D'**(0, 3)	**D"**(0, +1.5)

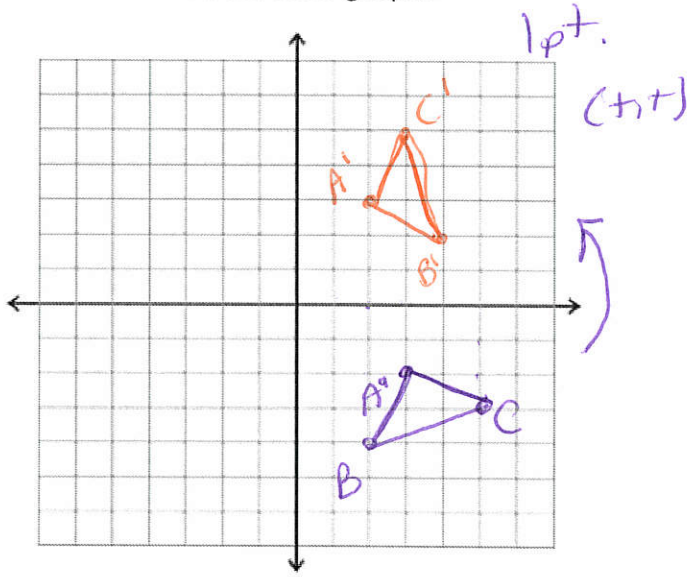


2pts b. Describe the relationship between the original figure and the final image.

(1) The image is similar to the original
(2) Corresponding angles are equal and sides are proportional
(3) Not congruent.

4pts. 3. Graph the follow points on a coordinate plane. Rotate the shape 90° counter-clockwise about the origin, completing both the coordinates and the new graph.

Original	Rotation (1pt)
A (3, -2)	**A'**(2, 3)
B (2, -4)	**B'**(4, 2)
C (5, -3)	**C'**(3, 5)



(2) b. Is the original shape congruent to the image? Provide evidence to justify your reasoning.

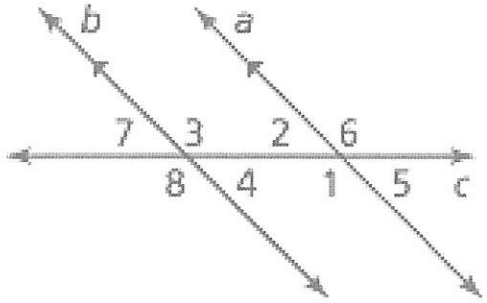
1pt. → yes, same shape

1pt. → same size, corresponding angles & sides are equal

(2) 4. How is a dilation different from other transformations? Explain and provide evidence to support your answer.

A dilation changes the size of the image and creates a similar figure.
→ corresponding angles are equal and corresponding sides are proportional.

5. Complete each statement below. 1pt. each



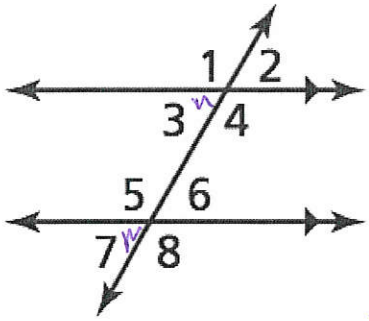
a. If the measure of < 2 = 35°, then the measure of < 4 = 35 °.

b. If the measure of < 8 = 98°, then the measure of < 1 = 98 °.

c. If the measure of < 4 = 58°, then the measure of < 1 = 122° °.

d. If the measure of < 1 = 110°, then the measure of < 6 = 110° °.

6. Explain **two** ways you can show that < 3 is congruent to < 7.



Method 1: Corresponding angles.

Method 2: <3 and <6 are congruent because they are alt. interior angles. <6 and <7 are congruent because they are vertical angles.

OR

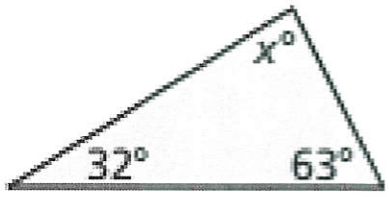
<3 and <2 are congruent because they are vertical angles and <2 and <7 are congruent because they are alt. exterior angles.

2

7. Calculate the value of x. Show all work.

$x + 32 + 63 = 180$ } 1 pt.
$x + 95 = 180$ }

$x = 85°$ ← 1 pt.



3

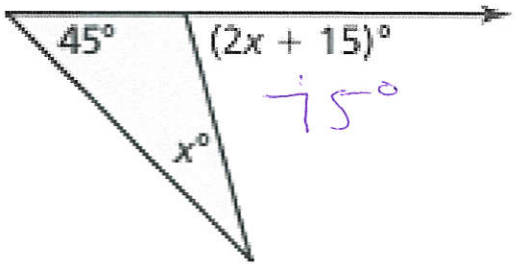
8. Calculate the value of x. Show all work.

$2x + 15 = 45 + x$ ← 1 pt

$2x = 30 + x$

$x = 30$ ← 1 pt

$2(30) + 15 =$
$60 + 15$
$75°$ ← 1 pt.



9. What is the distance across the river?

$\frac{100}{d} = \frac{4x}{7x}$

$\frac{4x \cdot d}{4x} = \frac{700x}{4x}$

$d = 175$ ft