# Test Review: Transformational Geometry

1. Which of the following words means the same size and same shape?
   a. Similar   b. compare   c. congruent   d. translate

2. Describe in words each of our rules for:
   a. Rotating 90° counterclockwise.

   b. Reflecting over the x-axis.

   c. Translating right 3 and then down 2.

3. The police use maps to track their patrol cars. One police car radioed in their position to be (15, 21). One hour later they were at a location of (-10, 16).
   a. Describe the translation in words.

   b. Describe the translation using symbols.

4. When you rotate a figure it gets bigger.   TRUE or FALSE
   Justify:

5. Explain the difference between a "pre-image" and an "image".

6. Complete the following transformations for each shape, by completing the following...

- Identify the pre-image coordinates.
- Find the image coordinates.
- Draw the new shape and label the vertices. (A' or x'...)

a. Translate 4 DOWN.
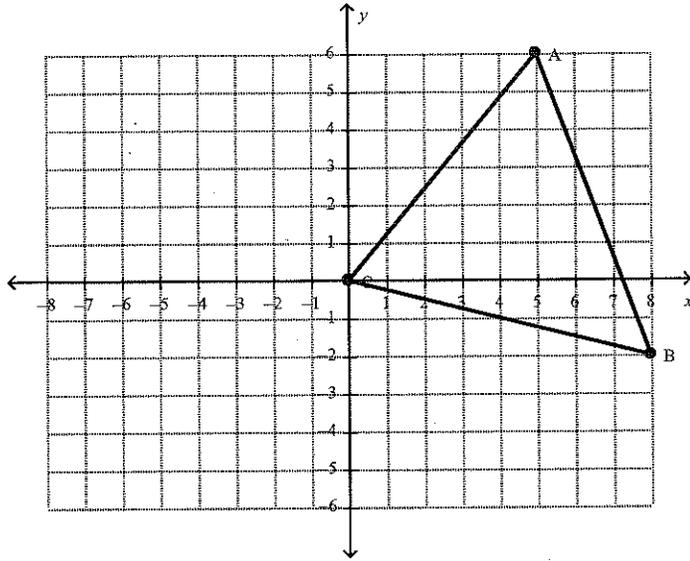
A _____   A' _____

B _____   B' _____

C _____   C' _____

Rule: _____

B. Reflect over the y-axis.
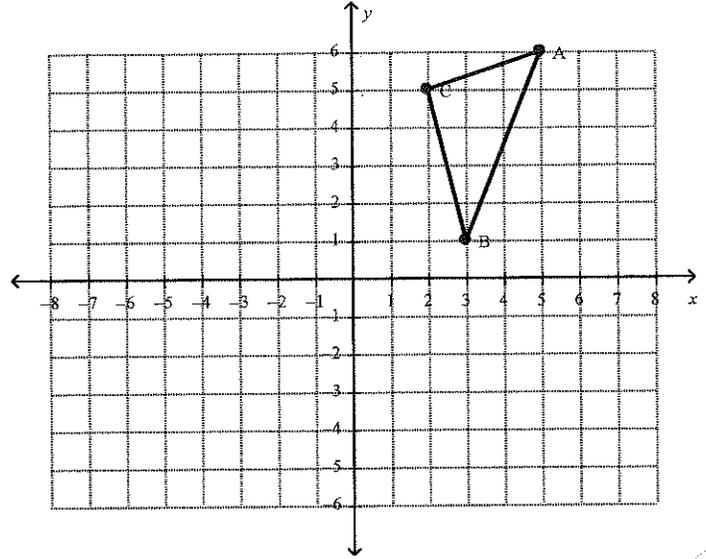
A _____   A' _____

B _____   B' _____

C _____   C' _____

Rule: _____

c. Rotate 270 degrees counterclockwise.
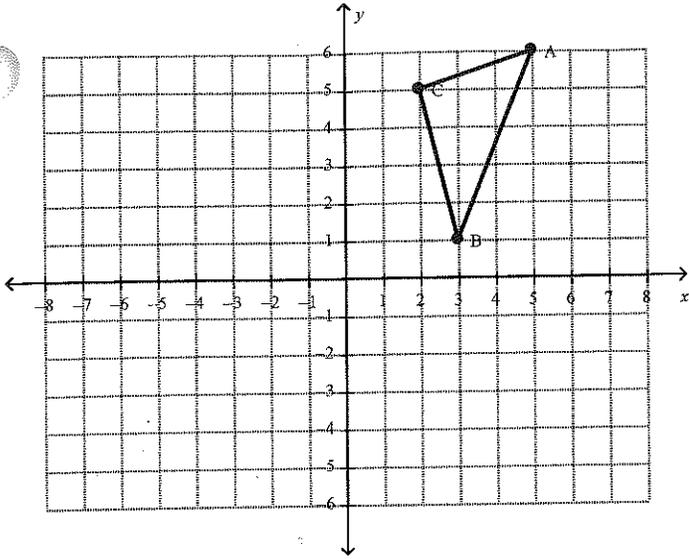
d. Translate 1 left and 5 up

A _____   A' _____

B _____   B' _____

C _____   C' _____
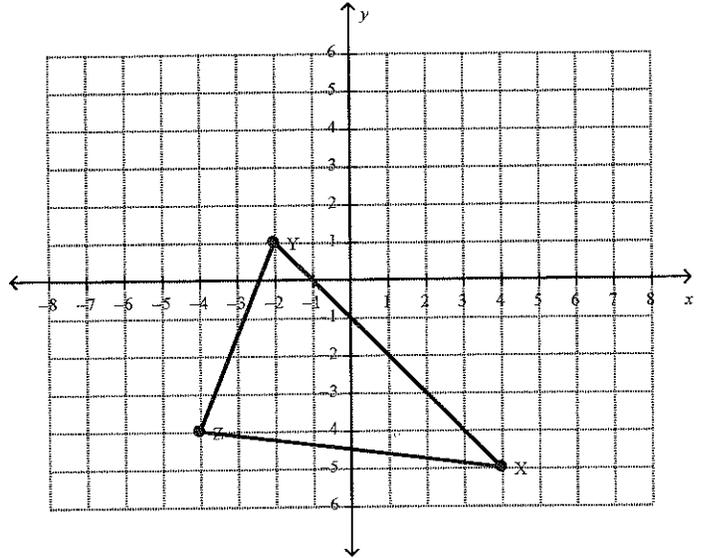
Rule: _____

X _____   X' _____

Y _____   Y' _____

A _____   Z' _____

Rule: _____
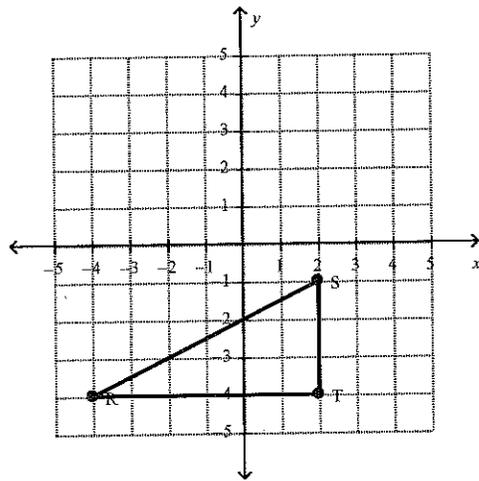
a. Rotate 180° counterclockwise

f. Reflect over the x-axis

R _____   R' _____

S _____   S' _____

T _____   T' _____
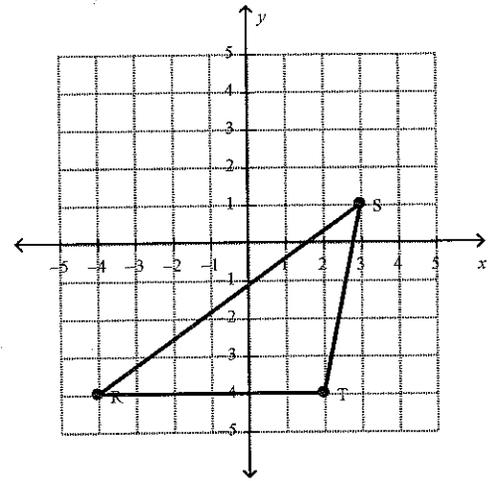
Rule: _____

R _____   R' _____

S _____   S' _____

T _____   T' _____

Rule: _____

g. Translate 2 right and 3 up
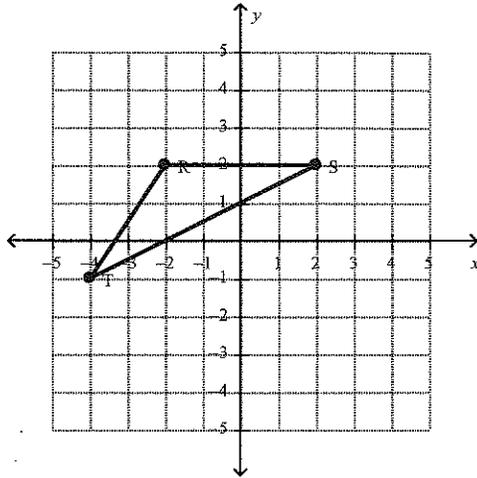
h. Reflect over the y-axis.

R _____   R' _____   R _____   R' _____

S _____   S' _____   S _____   S' _____

T _____   T' _____   T _____   T' _____
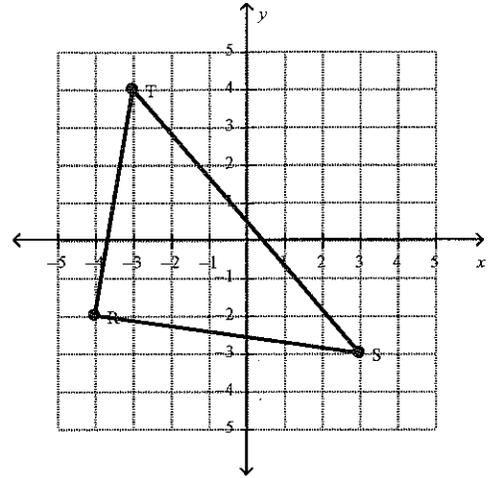
Rule:_____   Rule:_____

7. Draw all lines of symmetry for the following figures.
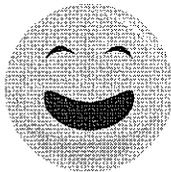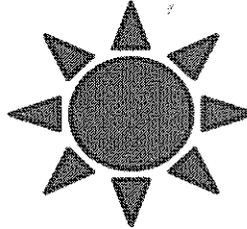
a.   b.   c.   d.
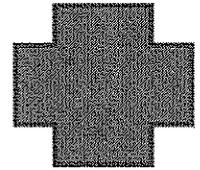
8. Create a design that will have reflectional symmetry. Choose the circle or the square to make your design.
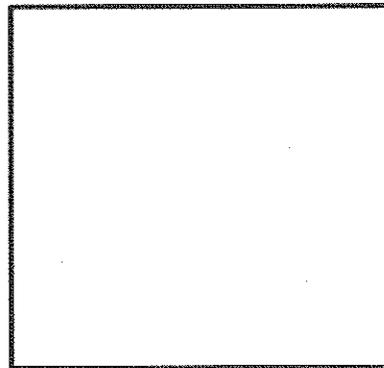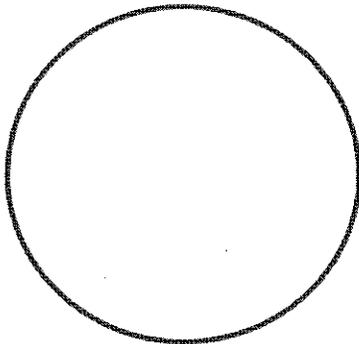
9. For each of the following pairs of points, identify the transformation. Was it a rotation (how much), was it a reflection (over which line), was it a translation (which way and how much)?

	Pre-Image	Image	Transformation
a.	(6,8)	(8, -6)	
b.	(-20, -3)	(-25, 0)	
c.	(-7, 100)	(-100, -7)	
d.	(3, -12)	(3, 12)	
e.	(0,0)	(-6, 15)	
f.	(14, -62)	(62, 14)	

10. Fill in the missing image points.

	Pre-Image	Transformation	Image
a.	(6,8)	Translate right 7 and down 12	
b.	(-20, -3)	Rotate 270° counterclockwise	
c.	(-7, 100)	Reflection over the x-axis.	
d.	(3, -12)	Rotate 180° counterclockwise	
e.	(0,0)	Translate 4 left.	
f.	(14, -62)	Reflection over the y-axis.	

11. Find the scale factor of the dilation pictured below.
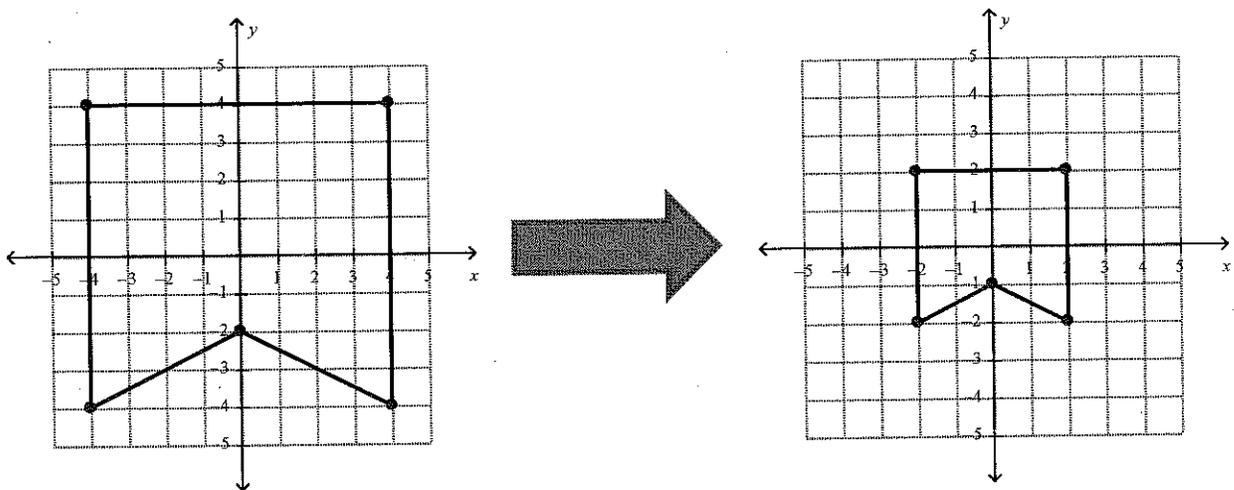
12. Consider the pre-image on the graph and the information below. Draw in the image and fill in the pre-image and the image coordinates.

13.
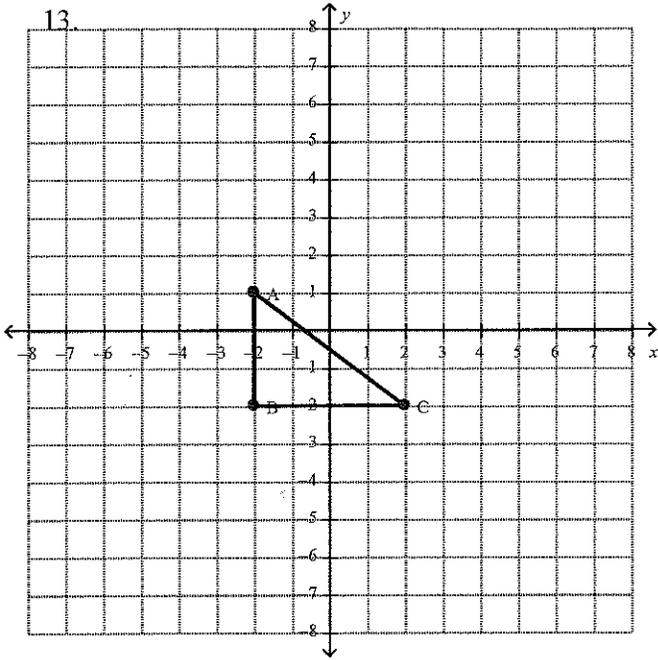
Center of Dilation (0, 0)

Scale Factor = 2

Pre-Image	Image
A	A′
B	B′
C	C′

Rule:_____

14. Describe the sequence of transformations illustrated in each graph below.

a.

1)_____

2)_____

b.

1)_____

2)_____

c.

1)_____

2)_____

d.

1)_____

2)_____

3)_____