

Name: _____

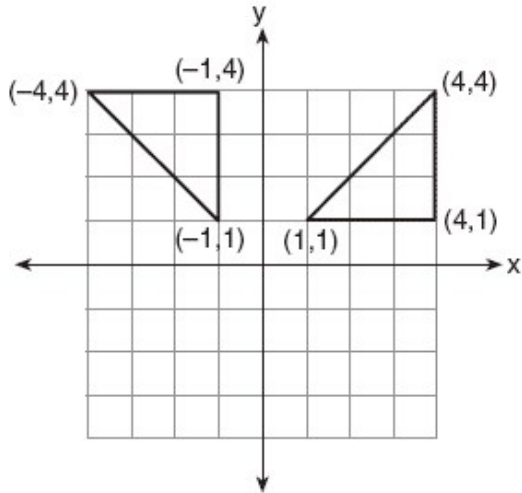
Class/Period: _____

Assignment: Dilation mixed with other transformations Due 5/11

1 Which transformation represents a dilation?

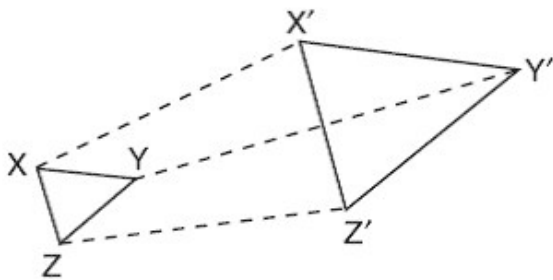
- 1 $(8, 4) \rightarrow (11, 7)$
- 2 $(8, 4) \rightarrow (-8, 4)$
- 3 $(8, 4) \rightarrow (-4, -8)$
- 4 $(8, 4) \rightarrow (4, 2)$

2 Which type of transformation is illustrated in the accompanying diagram?



- 1 dilation
- 2 reflection
- 3 translation
- 4 rotation

3 The accompanying diagram shows the transformation of $\triangle XYZ$ to $\triangle X'Y'Z'$.



This transformation is an example of a

- 1 line reflection
- 2 rotation
- 3 translation
- 4 dilation

4 Which transformation turns a figure on a point?

- 1 reflection
- 2 translation
- 3 rotation
- 4 none of the above

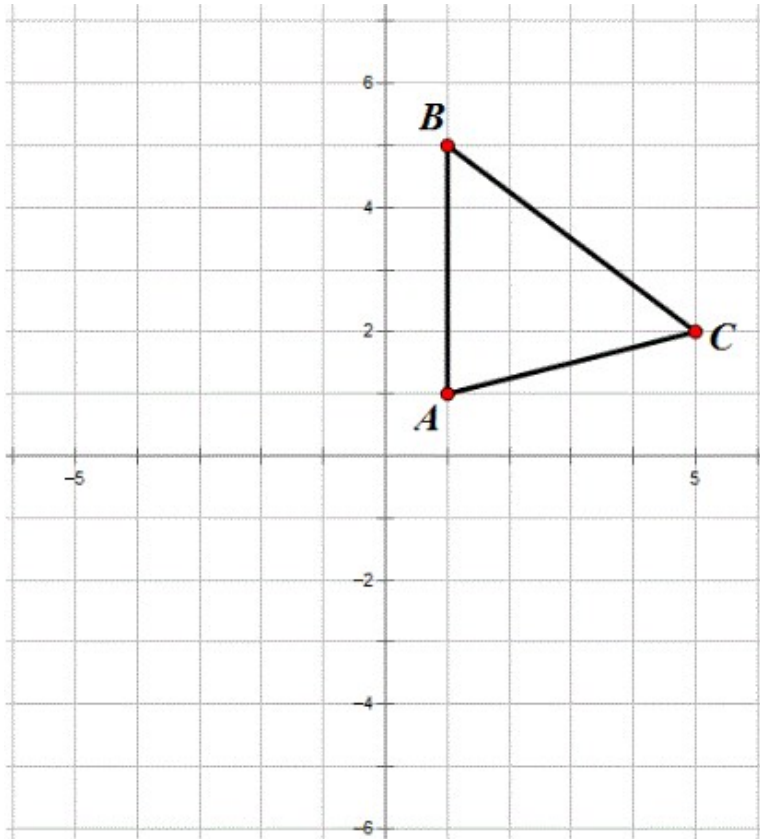
5 What are the coordinates of point $(2,-3)$ after it is reflected over the x -axis?

- 1 $(2,3)$
- 2 $(-2,3)$
- 3 $(-2,-3)$
- 4 $(-3,2)$

6 What is the rule for the translation of a point $(2, -2)$ to the image $(0, -1)$?

- 1 2 units right and 1 unit up
- 2 2 units right and 1 unit down
- 3 2 units left and 1 unit down
- 4 2 units left and 1 unit up

- 7 Triangle ABC is plotted on the coordinate plane below. Reflect $\triangle ABC$ over the y -axis to find the coordinates of its image, $\triangle A'B'C'$. What are the coordinates of $\triangle A'B'C'$?



The coordinates of $\triangle A'B'C'$ are:

A' (,)
 B' (,)
 C' (,)

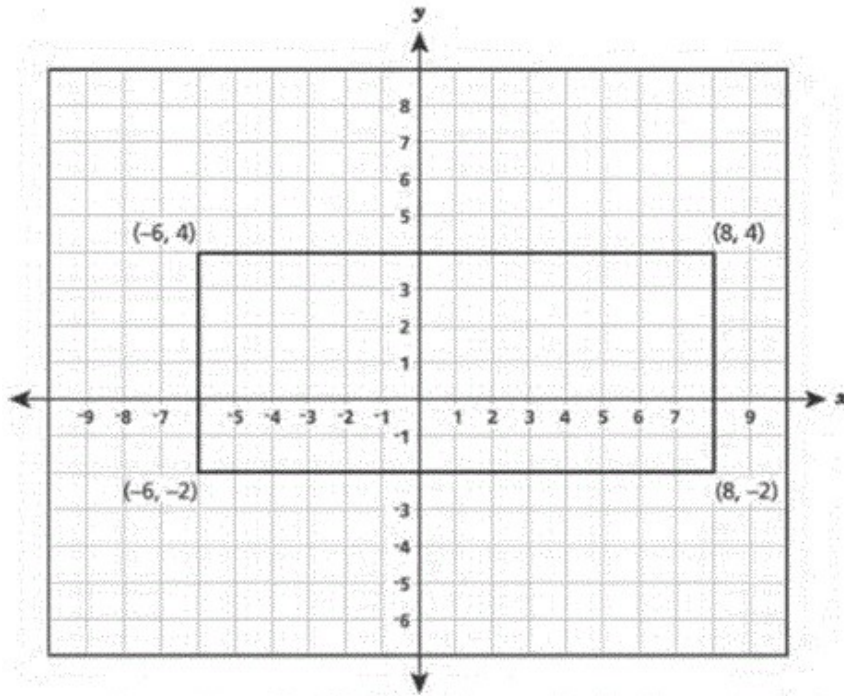
- 8 The image of point A after a dilation of 3 is $(6, 15)$. What was the original location of point A ?

- 1 $(2, 5)$
- 2 $(3, 12)$
- 3 $(9, 18)$
- 4 $(18, 45)$

- 9 The image of point $(-2, 3)$ under translation T is $(3, -1)$. What is the image of point $(4, 2)$ under the same translation?

- 1 $(-1, 6)$
- 2 $(0, 7)$
- 3 $(5, 4)$
- 4 $(9, -2)$

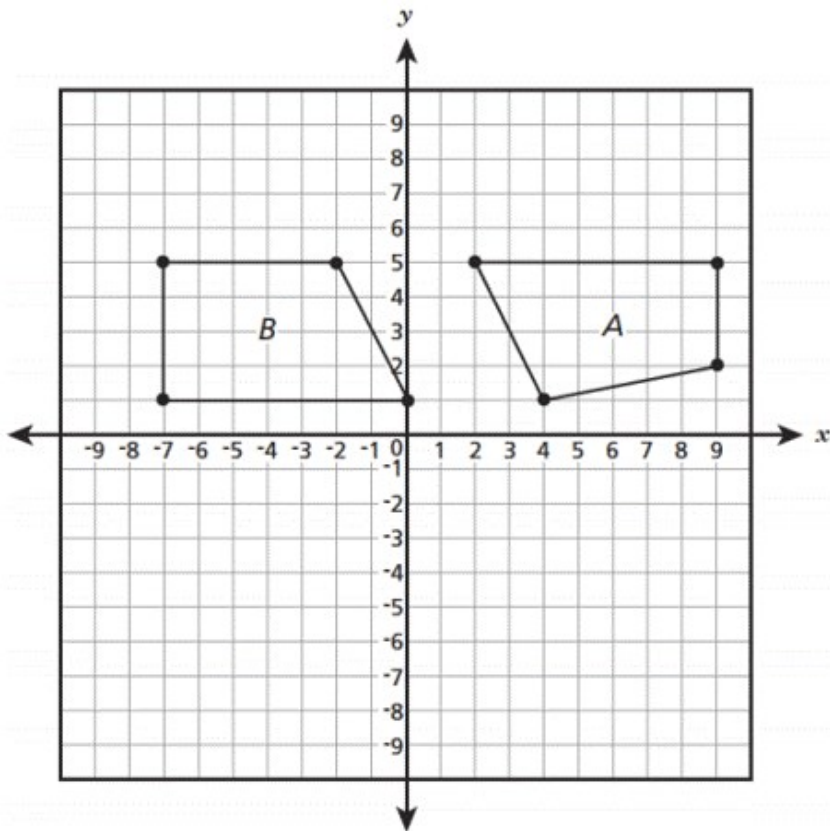
- 10 Franklyn enlarged a plan for an outdoor patio. The original plan is shown below.



He dilated the outdoor patio by a scale factor of 2.5 with the center of dilation at the origin. Which ordered pair will be the coordinates of one of the new vertices?

- 1 $(16, 8)$
 - 2 $(20, 10)$
 - 3 $(-15, 4)$
 - 4 $(-20, 5)$
- 11 What are the coordinates of the image of point $(-1, 2)$ under a dilation of 3 with respect to the origin?
- 1 $(-6, 3)$
 - 2 $(6, -3)$
 - 3 $(3, 6)$
 - 4 $(-3, 6)$
- 12 If an image with the coordinates $(3, 4)$, $(1, 2)$ and $(-1, 0)$ is dilated using a scale factor of 4, what are the coordinates of the new image?
- 1 $(3, 4)$, $(1, 2)$ and $(-1, 0)$
 - 2 $(12, 16)$, $(4, 8)$ and $(-4, 0)$
 - 3 $(4, 3)$, $(2, 1)$ and $(0, -1)$
 - 4 $(9, 12)$, $(3, 6)$ and $(-3, 0)$

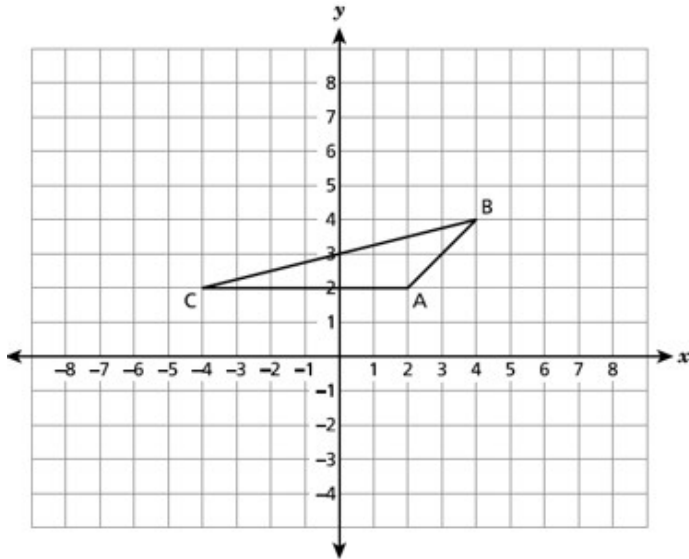
- 13 Lily wants to define a transformation (or series of transformations) using only rotations, reflections, or translations that takes Figure *A* to Figure *B*.



Which statement about the transformation that Lily wants to define is true?

- 1 It can be defined with two reflections.
 - 2 It can be defined with one rotation and one translation.
 - 3 It cannot be defined because Figure *A* and Figure *B* are not congruent.
 - 4 It cannot be defined because the longest side of Figure *B* is on the bottom.
- 14 The best description of a dilation of a figure is
- 1 an enlargement or a reduction of the figure
 - 2 a slide of the figure
 - 3 a turning of the figure about some fixed point
 - 4 a mirror image of the figure
- 15 Under which transformation can the image be a different size than the original figure?
- 1 translation
 - 2 rotation
 - 3 dilation
 - 4 reflection

- 16 Triangle ABC is graphed on a coordinate plane, as shown below.

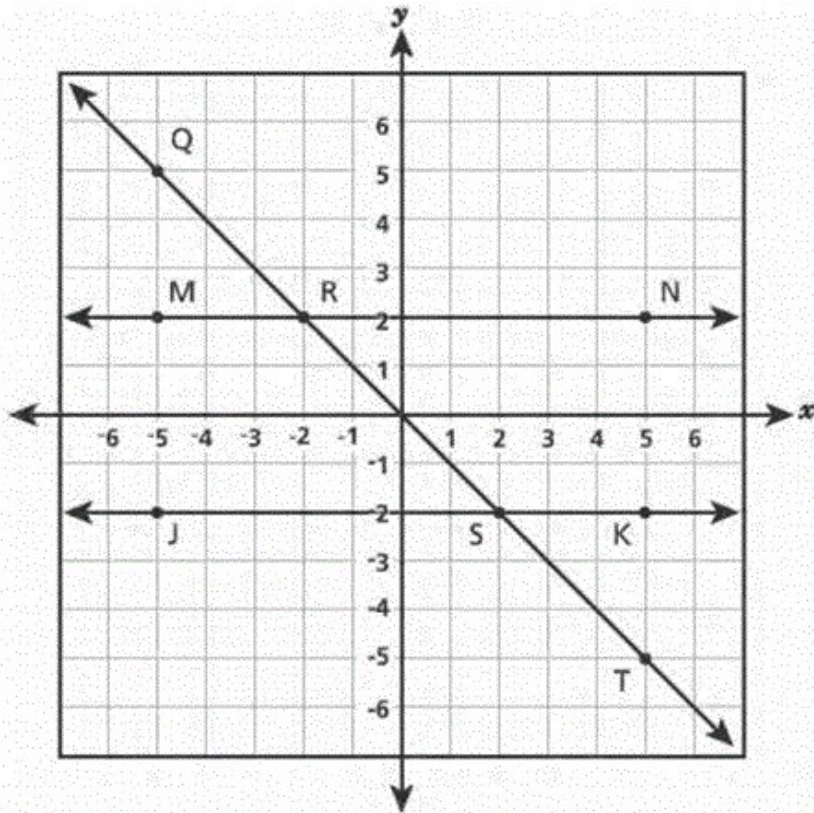


Triangle ABC is dilated by a scale factor of 2 with a center of dilation at the origin to create $\Delta A'B'C'$. What are the coordinates of the vertices of $\Delta A'B'C'$?

- 1 (1, 1), (2, 2), (-2, 1)
 - 2 (4, 2), (8, 6), (-8, 2)
 - 3 (4, 4), (6, 6), (-2, 4)
 - 4 (4, 4), (8, 8), (-8, 4)
- 17 On a coordinate plane, vertex A for triangle ABC is located at (6, 4). Triangle ABC is dilated by a scale factor of 0.5 with the center of dilation at the origin. The resulting image is triangle A'B'C'. What are the coordinates of vertex A'?

- 1 (3, 2)
- 2 (12, 8)
- 3 (5.5, 3.5)
- 4 (6.5, 4.5)

18 In the diagram below, lines MN and JK are parallel and are intersected by line QT .



Which transformation could be used to show that $\angle QRM$ is congruent to $\angle RSJ$?

- 1 Reflect $\angle QRM$ over the y -axis
- 2 Rotate $\angle QRM$ about the origin
- 3 Translate $\angle QRM$ down and to the right
- 4 Dilate $\angle QRM$ by a scale factor of two with the center at point R

19 What is the image of point $(-3,4)$ under the translation that shifts (x, y) to $(x - 3, y + 2)$?

- 1 $(0,6)$
- 2 $(6,6)$
- 3 $(-6,8)$
- 4 $(-6,6)$

20 Which way do rotations usually occur if you are not told otherwise?

- 1 up
- 2 down
- 3 clockwise
- 4 counterclockwise

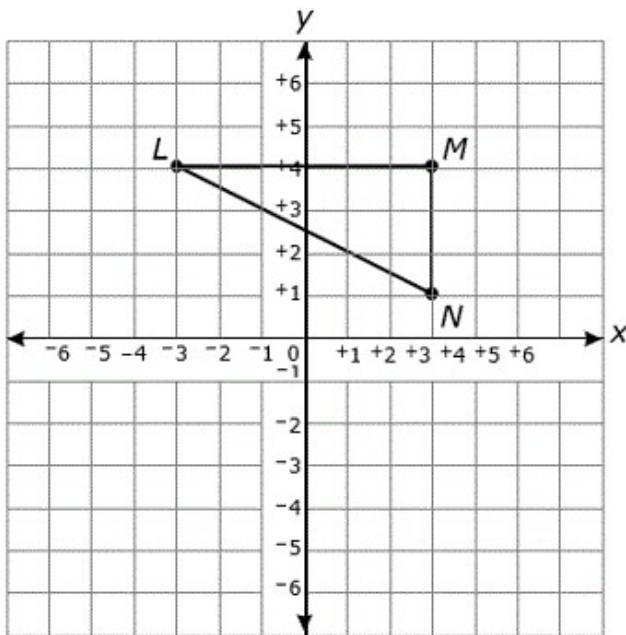
21 When the point $(2, -5)$ is reflected in the x -axis, what are the coordinates of its image?

- 1 $(-5, 2)$
- 2 $(-2, 5)$
- 3 $(2, 5)$
- 4 $(5, 2)$

22 Are the size and shape of a figure preserved under the following transformations? Select Yes or No for transformations A – D.

A. Translation	<input type="radio"/> Yes	<input type="radio"/> No
B. Reflection	<input type="radio"/> Yes	<input type="radio"/> No
C. Dilation	<input type="radio"/> Yes	<input type="radio"/> No
D. Rotation	<input type="radio"/> Yes	<input type="radio"/> No

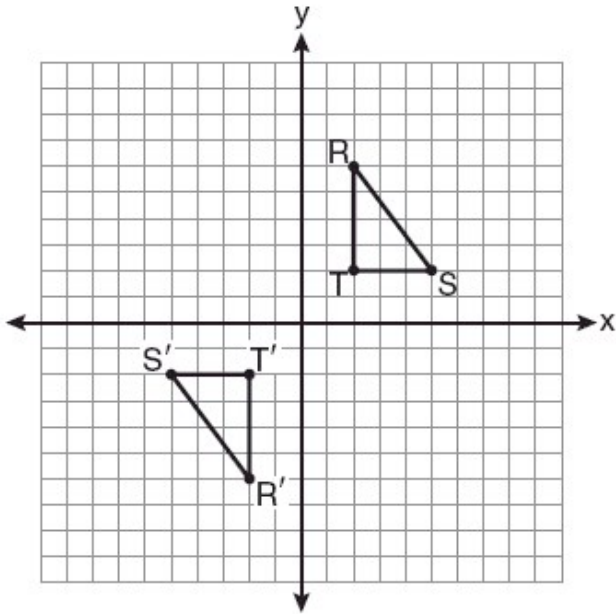
23 $\triangle LMN$ will be dilated with respect to the origin by a scale factor of $\frac{1}{2}$.



What will be the coordinates of $\triangle L'M'N'$?

- 1 $L'(-6, -8), M'(6, 8), N'(6, 1)$
- 2 $L'(-3, 2), M'(3, 2), N'(3, 0.5)$
- 3 $L'(-1.5, 2), M'(1.5, 2), N'(1.5, 0.5)$
- 4 $L'(-1, 2), M'(1, 2), N'(1, 1)$

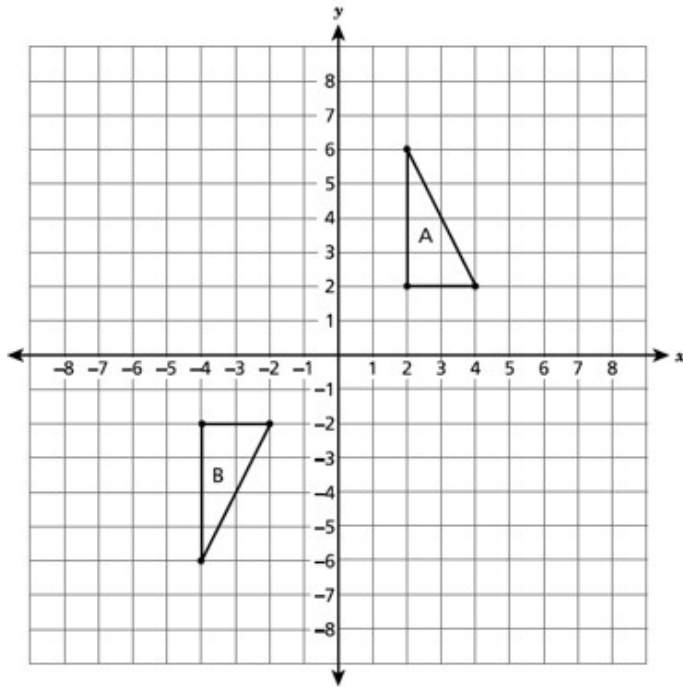
24 As shown on the graph below, $\triangle R'S'T'$ is the image of $\triangle RST$ under a single transformation.



Which transformation does this graph represent?

- 1 glide reflection
- 2 line reflection
- 3 rotation
- 4 translation

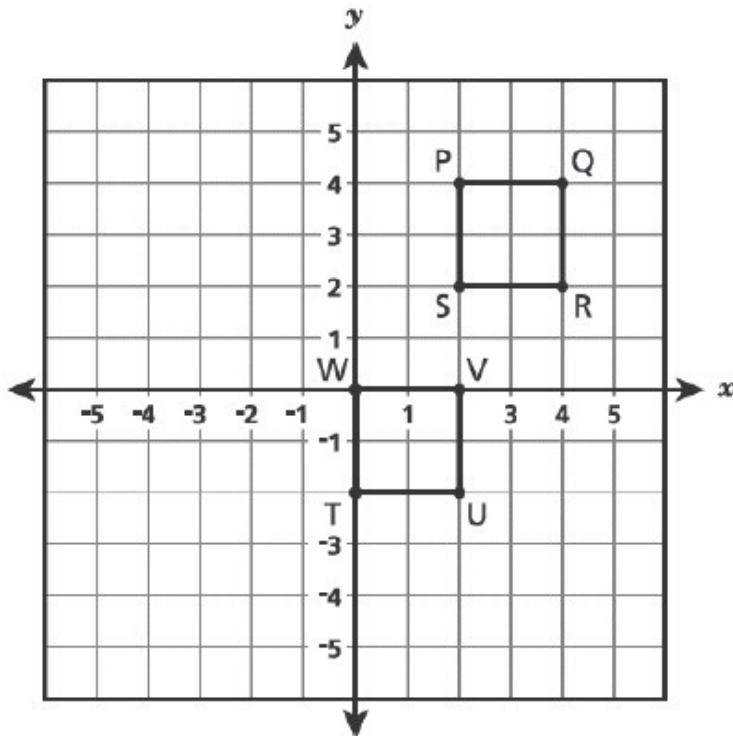
25 Triangle A and triangle B are graphed on the coordinate plane below.



Which sequence of transformations will map triangle A onto its congruent image, triangle B?

- 1 a reflection over the x -axis, then a reflection over the y -axis
- 2 a translation 8 units down, then a reflection over the y -axis
- 3 a reflection over the x -axis, then a translation 6 units to the left
- 4 a rotation 90° clockwise about the origin, then a translation 6 units to the left

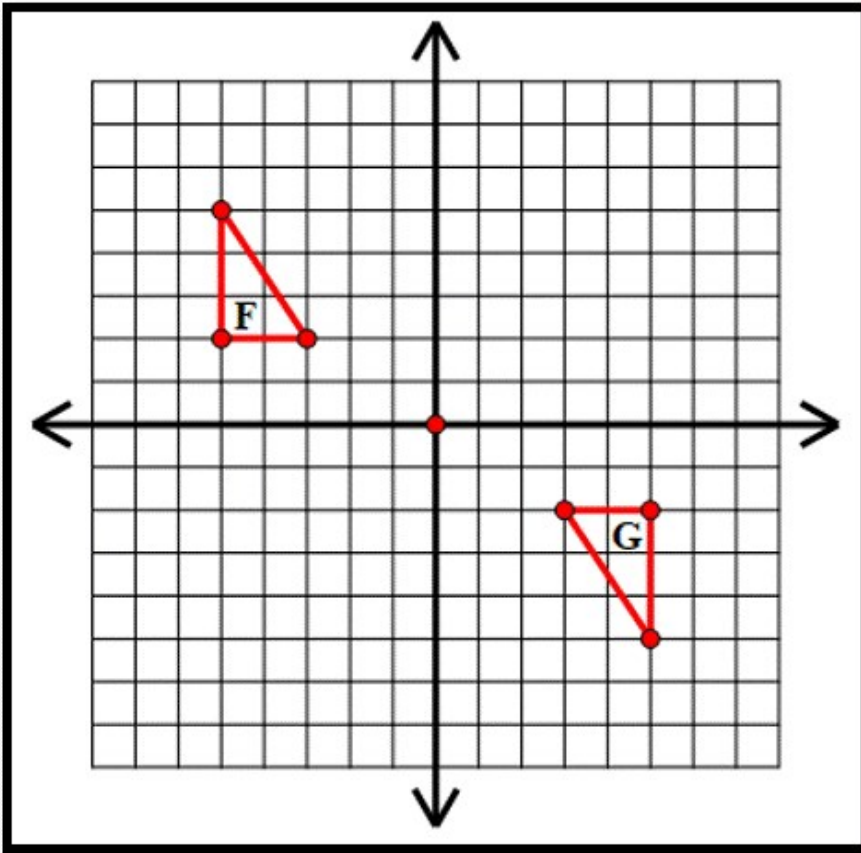
26 Squares PQRS and TUVW are shown below.



Which sequence of transformations of square PQRS shows that square PQRS is congruent to square TUVW?

- 1 a translation 2 units up and 2 units to the right, then a reflection over the x -axis
- 2 a translation 2 units up and 2 units to the right, then a reflection over the y -axis
- 3 a translation 2 units down and 2 units to the left, then a reflection over the x -axis
- 4 a translation 2 units down and 2 units to the left, then a reflection over the y -axis

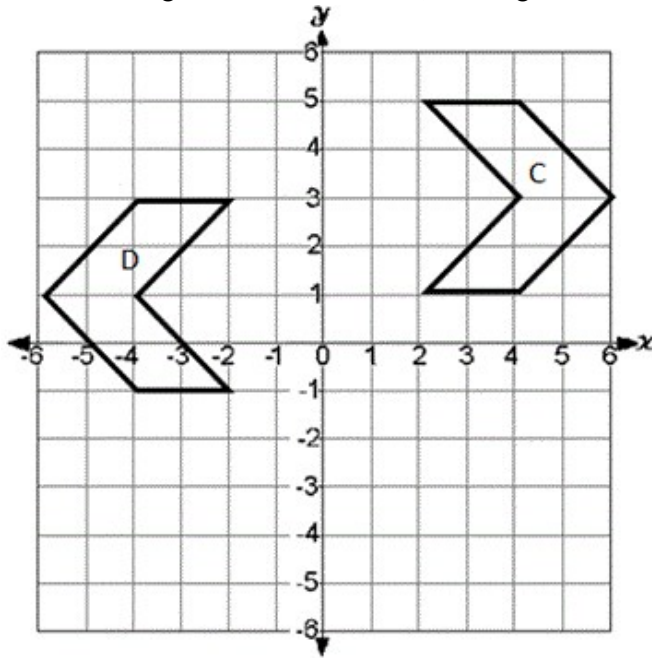
27 Triangle F and triangle G are shown below.



Which sequence does *not* transform triangle F to triangle G?

- 1 a 180° clockwise rotation about the origin
- 2 a 180° counterclockwise rotation about the origin
- 3 a reflection over the x -axis and then a reflection over the y -axis
- 4 a reflection over the y -axis and then a 90° clockwise rotation about the origin

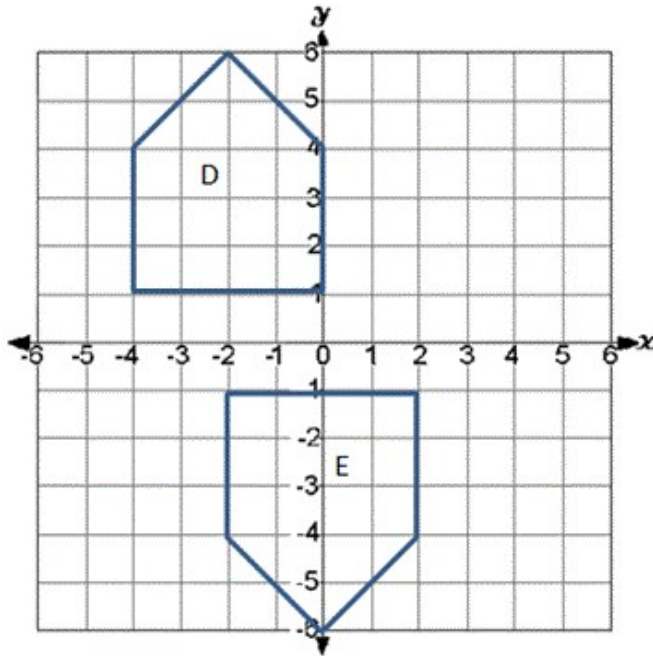
28 Hexagon C and hexagon D, as shown below, are congruent.



Which sequence could be used to transform hexagon C to hexagon D?

- 1 Translation 4 left and 2 down.
- 2 A reflection over the x -axis and a translation 6 units right.
- 3 A reflection over the y -axis and a translation 2 units down.
- 4 A counter-clockwise rotation of 90° about the origin.

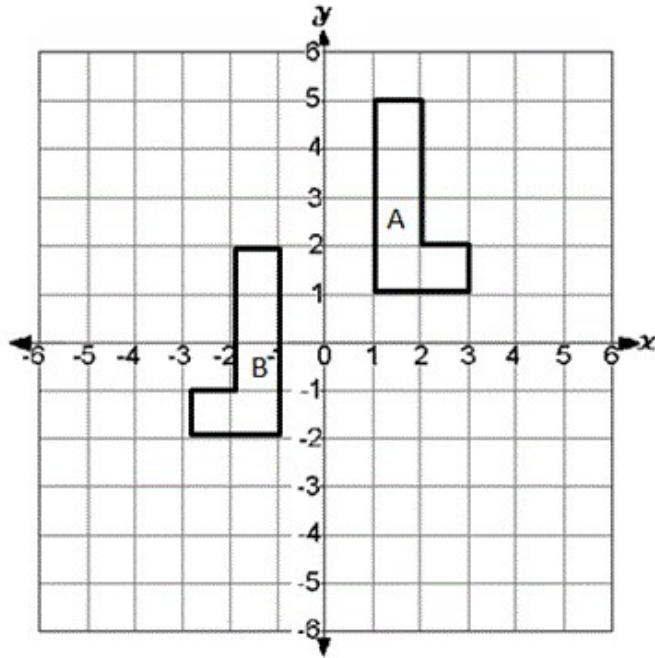
29 Pentagon D and pentagon E, shown below, are congruent.



Which sequence could be used to transform pentagon D to pentagon E?

- 1 A reflection over the x -axis and a translation 2 units right.
- 2 A rotation 180° about the origin.
- 3 A dilation with a scale factor of 2.
- 4 A reflection over the y -axis and a translation 2 units down.

30 Hexagon A and hexagon B, shown below, are congruent.



Which sequence could be used to transform hexagon A to hexagon B?

- 1 A rotation 180° about the origin.
- 2 A translation 3 units down and a reflection over the y -axis.
- 3 A translation 3 units down and 3 units right.
- 4 A reflection over the x -axis and then a translation 4 units left.