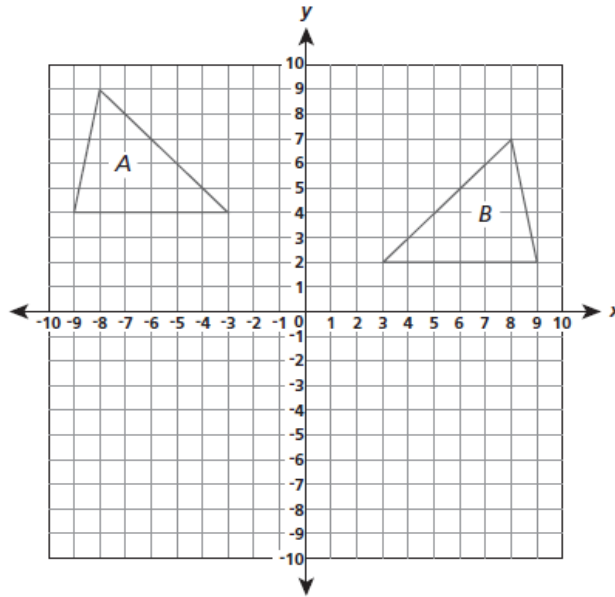


Name: \_\_\_\_\_  
8.G.2

Date: \_\_\_\_\_

\_\_\_\_\_ 1. Which sequence of transformations takes  $\Delta A$  to its image,  $\Delta B$  ?

(2013 8.G.2)

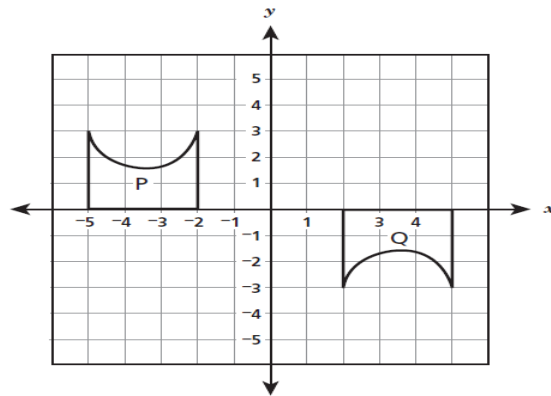


- A. reflection over the  $x$ -axis and translation 2 units down
- B. reflection over the  $y$ -axis and translation 2 units down
- C. translation 2 units down and  $90^\circ$  rotation about the origin
- D. translation 12 units right and  $90^\circ$  rotation about the origin

\_\_\_\_\_ 2. A sequence of transformations was applied to an equilateral triangle in a coordinate plane. The transformations used were rotations, reflections, and translations. Which statement about the resulting figure is true? (2014 8.G.2)

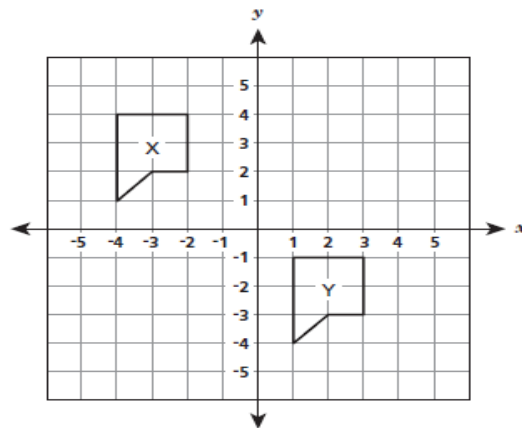
- A. It must be an equilateral triangle with the same side lengths as the original triangle.
- B. It must be an equilateral triangle, but the side lengths may differ from the original triangle.
- C. It may be a scalene triangle, and all the side lengths may differ from the original triangle.
- D. It may be an obtuse triangle with at least one side the same length as the original triangle.

- \_\_\_\_ 3. Figure Q was the result of a sequence of transformations on figure P, both shown below. (2014 8.G.2)



Which sequence of transformations could take figure P to figure Q?

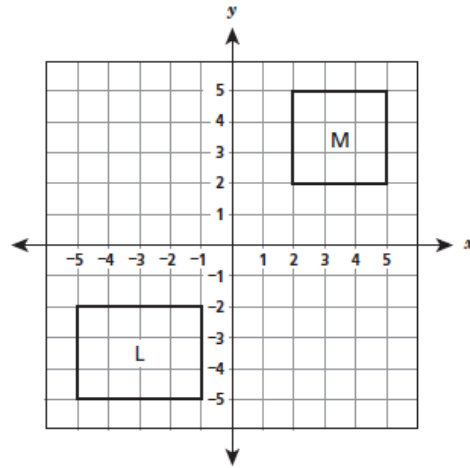
- \_\_\_\_ 4. Figure X and figure Y are shown on the coordinate grid below. (2015 8.G.2)



Which statement about figures X and Y **must** be true?

- A. A series of translations will transform figure X to figure Y, and the figures will be congruent.
- B. A  $180^\circ$  clockwise rotation will transform figure X to figure Y, and the figures will be congruent.
- C. A series of translations will transform figure X to figure Y, but the figures will not be congruent.
- D. A  $180^\circ$  clockwise rotation will transform figure X to figure Y, but the figures will not be congruent.

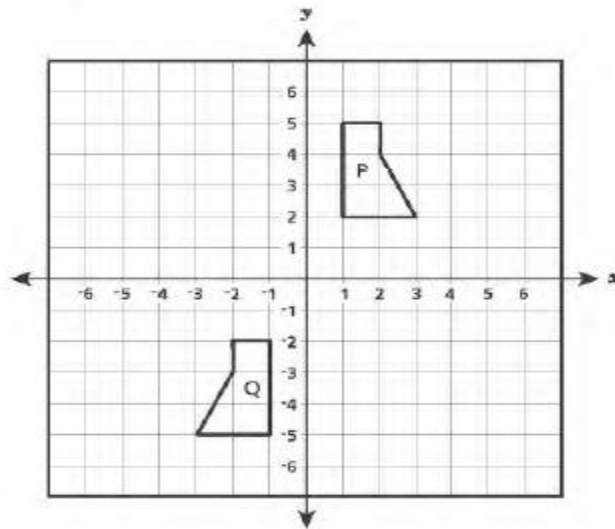
\_\_\_\_5. Figure L and figure M are shown on the grid below. (calculator allowed) (2015 8.G.2)



Maria wants to transform figure L to figure M using only rotations, reflections, and translations. Which statement is true?

- A. The transformation can be done with a reflection followed by a rotation.
- B. The transformation can be done with a reflection followed by a translation.
- C. The transformation cannot be done because figure L is not congruent to figure M.
- D. The transformation cannot be done because figures L and M are in different quadrants.

\_\_\_\_6. Pentagon P and pentagon Q, shown below, are congruent. (2016 8.G.2) (no calculator)

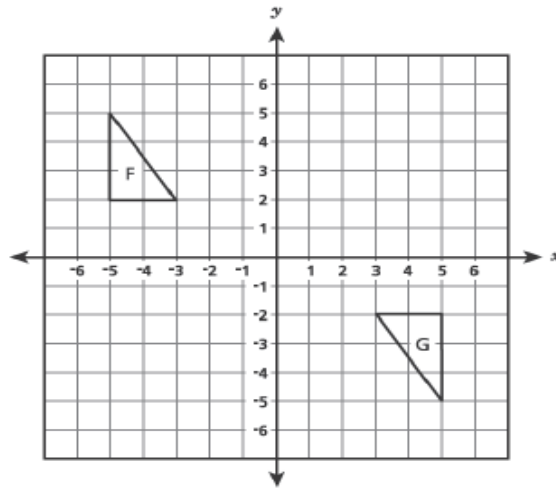


Which sequence could be used to transform pentagon P to pentagon Q?

- A. a  $180^\circ$  clockwise rotation about the origin
- B. a translation four units left and then a reflection over the x-axis
- C. a reflection over the y-axis and then a translation seven units down
- D. a translation seven units down and then a  $90^\circ$  clockwise rotation about the origin

\_\_\_\_7. Triangle F and G are shown below.

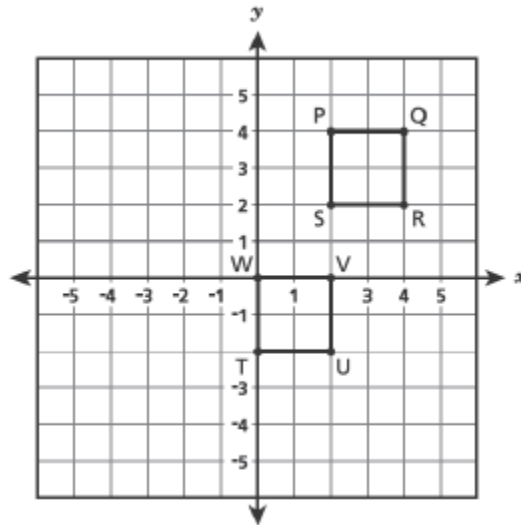
(2017 8.G.2) no calculator



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

- A. a  $180^\circ$  clockwise rotation about the origin
- B. a  $180^\circ$  counterclockwise rotation about the origin
- C. a reflection over the x-axis and then a reflection over the y-axis
- D. a reflection over the y-axis and then a  $90^\circ$  clockwise rotation about the origin

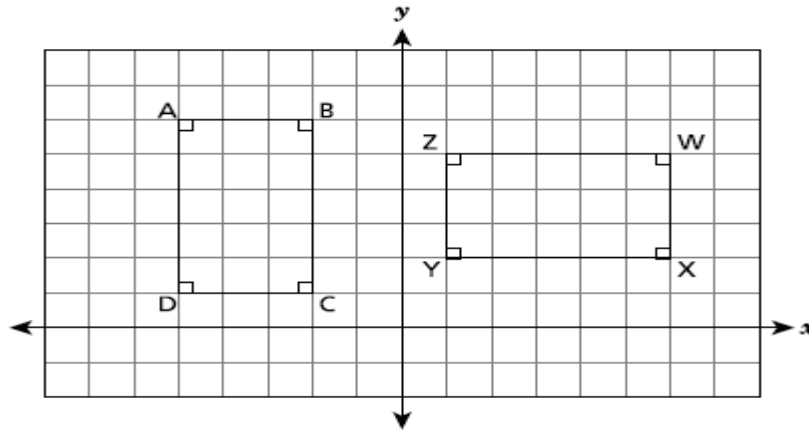
\_\_\_\_8. Squares PQRS and TUVW are shown below.



Which sequence of transformations of square PQRS shows that square PQRS is congruent to square TUVW?  
(2017 8.G.2)

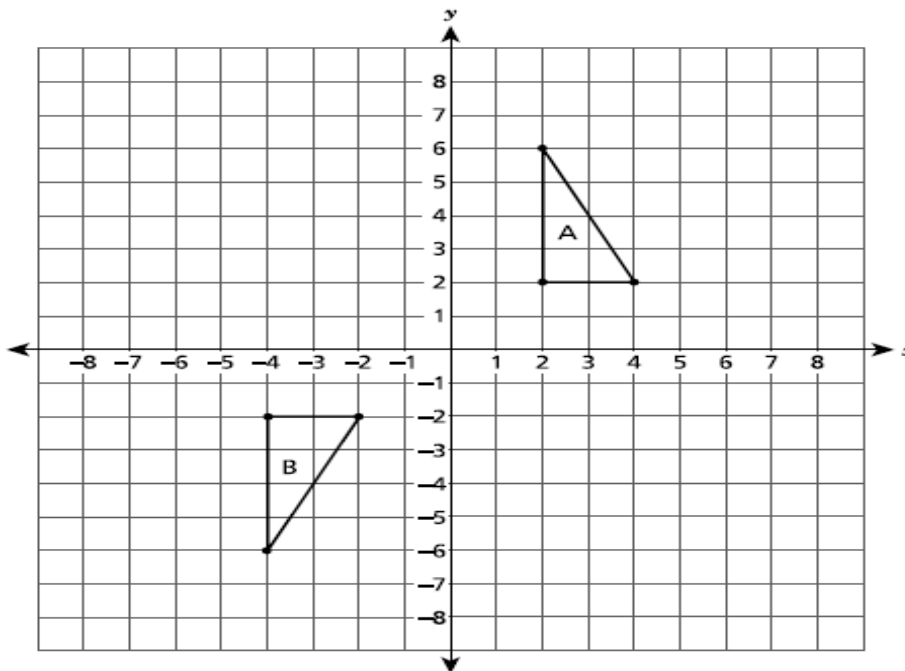
- A. a translation 2 units up and 2 units to the right, then a reflection over the x-axis
- B. a translation 2 units up and 2 units to the right, then a reflection over the y-axis
- C. a translation 2 units down and 2 units to the left, then a reflection over the x-axis
- D. a translation 2 units down and 2 units to the left, then a reflection over the y-axis

9. On the coordinate plane below, rectangle ABCD is rotated 90° clockwise about the origin to form rectangle WXYZ. (2018 8.G.2)



Which statement about the relationship between rectangle ABCD and rectangle WXYZ is true?

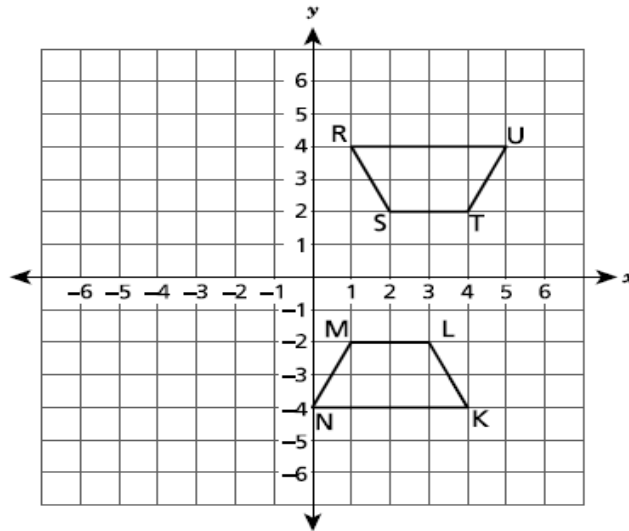
- A  $\overline{DA} \cong \overline{YZ}$
  - B  $\overline{DC} \cong \overline{XY}$
  - C  $\overline{BC} \cong \overline{YZ}$
  - D  $\overline{AB} \cong \overline{WX}$
10. Triangle A and triangle B are graphed on the coordinate plane below. (2019 and 2021 8.G.2)



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

- A. a reflection over the x axis, then a reflection over the y axis
- B. a translation 8 units down, then a reflection over the y axis
- C. a reflection over the x axis, then a translation 6 units to the left
- D. a rotation clockwise 90° about the origin, then a translation 6 units to the left

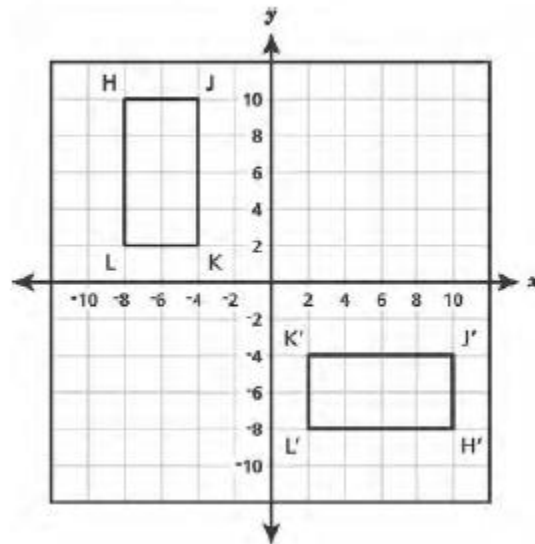
\_\_\_\_11. Trapezoid RSTU and trapezoid NMLK shown on the coordinate plane are congruent. (2022)



Which sequence of transformations will map trapezoid RSTU onto trapezoid NMLK?

- A. a reflection over the  $y$ -axis, then a translation 1 unit to the right
- B. a reflection over the  $x$ -axis, then a translation 1 unit to the left
- C. a reflection over the  $y$ -axis, then a translation 1 unit down
- D. a reflection over the  $x$ -axis, then a translation 1 unit up

12. Congruent rectangles HJKL and H'J'K'L' are shown on the coordinate grid below. (2016 8.G.2)



Describe a sequence of transformations on rectangle HJKL that would result in rectangle H'J'K'L'.

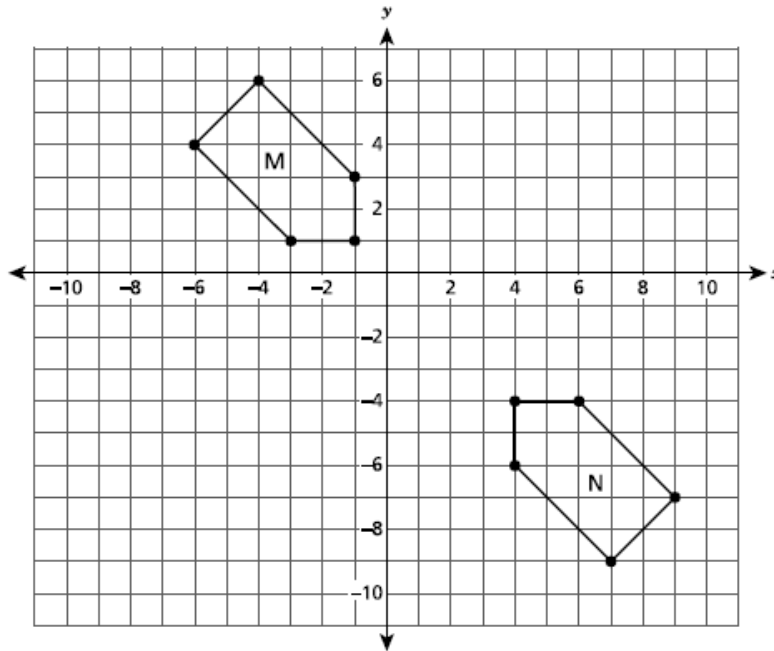
**Answer**

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13. Figure M and its congruent image, figure N, are graphed on the coordinate plane below.



Describe a sequence of transformations that will take figure M onto its congruent image, Figure N. (2022)

*Explain your answer.*

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