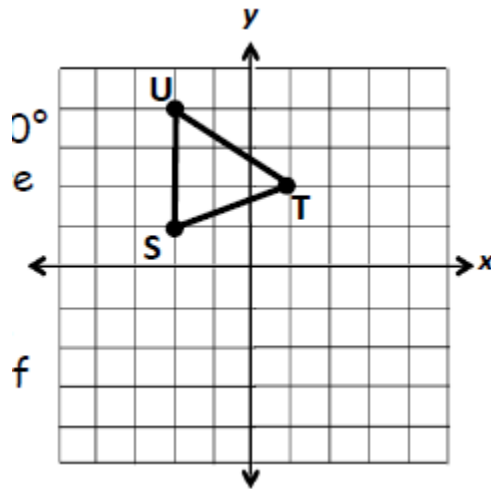


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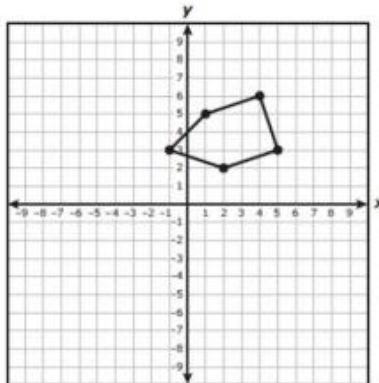
## Test Review: Transformations

1. Triangle STU is rotated  $90^\circ$  counterclockwise about the origin to form triangle A'B'C'.



Which statement is true?

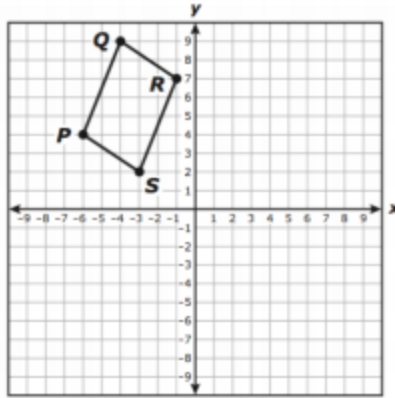
- A. The sum of the angle measures of triangle S'T'U' is  $90^\circ$  more than the sum of the angle measures of triangle STU.
- B. Each side length of triangle S'T'U' is  $\frac{1}{2}$  the corresponding side length of triangle STU.
- C. Each side length of triangle S'T'U' is 2 times the corresponding side length of triangle STU.
- D. Triangle STU is congruent to triangle S'T'U'.
2. Which representation of a transformation on a coordinate grid does **not** preserve congruence?
- A.  $(x, y) \rightarrow (x, -y)$
- B.  $(x, y) \rightarrow (x + 10, y - 4)$
- C.  $(x, y) \rightarrow (\frac{2}{5}x, \frac{2}{5}y)$
- D.  $(x, y) \rightarrow (y, -x)$
3. The coordinate grid shows a pentagon. The pentagon is translated 5 units to the left and 3 units up to create a new pentagon.



Which rule describes this transformation?

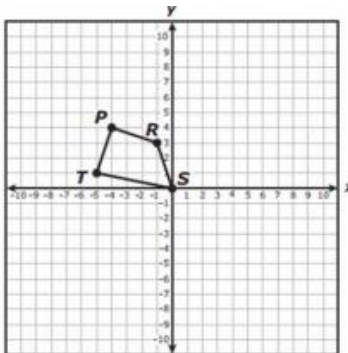
- A.  $(x, y) \rightarrow (x + 3, y - 5)$
- B.  $(x, y) \rightarrow (x - 3, y + 5)$
- C.  $(x, y) \rightarrow (x + 5, y - 3)$
- D.  $(x, y) \rightarrow (x - 5, y + 3)$

4. Quadrilateral PQRS is transformed according to the rule  $(x, y) \rightarrow (x - 7, y + 3)$  to create quadrilateral P'Q'R'S'.



Which statement is true?

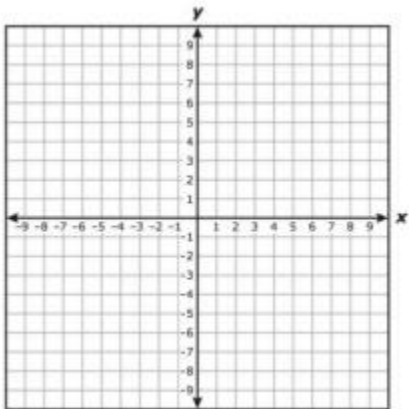
- A. The side lengths of quadrilateral P'Q'R'S' are 7 units longer than the corresponding side lengths of quadrilateral PQRS.
  - B. The angle measures of quadrilateral P'Q'R'S' are greater than the corresponding angle measures of quadrilateral PQRS.
  - C. The angle measures of quadrilateral P'Q'R'S' are equal to the corresponding angle measures of quadrilateral PQRS.
  - D. The side lengths of quadrilateral P'Q'R'S' are twice the corresponding side lengths of quadrilateral PQRS.
5. A transformation is applied to a figure to create a new figure. Which transformation does **not** preserve congruence?
- A. A rotation of  $180^\circ$  counterclockwise
  - B. Dilation by a scale factor of  $\frac{2}{3}$
  - C. A translation 4 units to the right and 2 units down
  - D. A reflection across the x-axis
6. The coordinate grid shows parallelogram PRST.



Parallelogram PRST is rotated  $90^\circ$  clockwise about the origin to create parallelogram P'R'S'T'. Which rule describes this transformation?

- A.  $(x, y) \rightarrow (y, x)$
- B.  $(x, y) \rightarrow (y, -x)$
- C.  $(x, y) \rightarrow (x, -y)$
- D.  $(x, y) \rightarrow (-x, y)$

7. The coordinates of the vertices of a quadrilateral are A (2, 4), B (2, 8), C (6, 8), and D (8, 4).

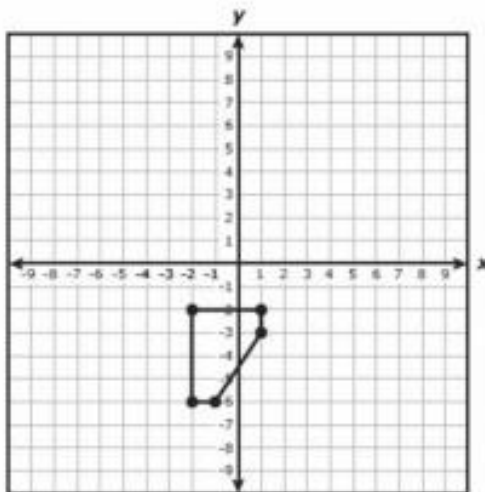


Quadrilateral ABCD is reflected across the y-axis to create quadrilateral A'B'C'D'. Which rule describes this transformation?

- A.  $(x, y) \rightarrow (y, -x)$                       C.  $(x, y) \rightarrow (x, -y)$   
 B.  $(x, y) \rightarrow (-y, x)$                       D.  $(x, y) \rightarrow (-x, y)$
8. Triangle QRS was translated 4 units to the left and 7 units down. Which rule describes the translation that was applied to triangle QRS to create triangle Q'R'S'?

- A.  $(x, y) \rightarrow (4x, 7y)$                       C.  $(x, y) \rightarrow (-4x, -7y)$   
 B.  $(x, y) \rightarrow (x - 4, y + 7)$                       D.  $(x, y) \rightarrow (x - 4, y - 7)$

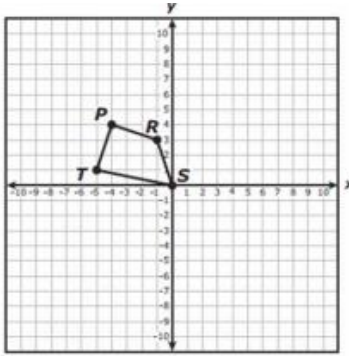
9. A figure is graphed on a coordinate grid as shown.



The figure is rotated 270° clockwise with the origin as the center of rotation to create a new figure. Which rule describes this transformation?

- A.  $(x, y) \rightarrow (-x, -y)$                       C.  $(x, y) \rightarrow (-y, -x)$   
 B.  $(x, y) \rightarrow (-y, x)$                       D.  $(x, y) \rightarrow (-x, y)$

10. Figure PRST is shown on the grid below.



What would be the coordinates of P' after a reflection over the x-axis?

- A. (4, 4)
- B. (4, -4)
- C. (-4, 4)
- D. (-4, -4)

11.  $4x - 11 = 6x - 41$

12.  $2y + 3 = 3y + 6$

13.  $\frac{4}{5}x + 3 = \frac{1}{2}x - 6$