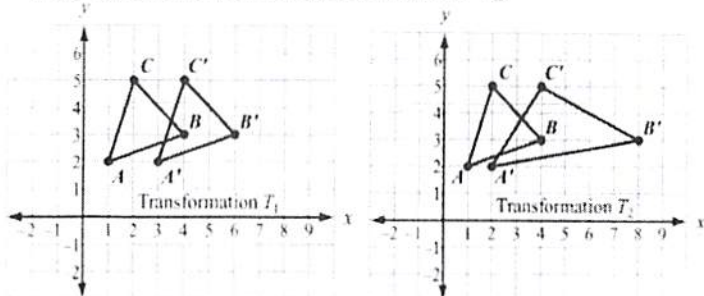


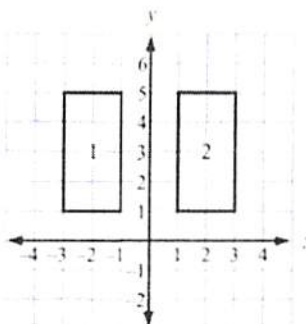
Directions: Solve each problem.

- 1) In the given figures, explain how transformation T_1 is different from transformation T_2 .



T_1 is a translation of 2 units right.
 T_2 is a horizontal stretch of a scale factor of 2.

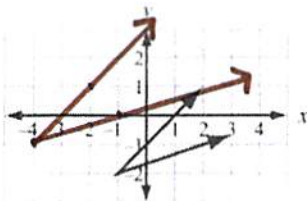
- 2) In the image below, explain 2 different ways to map Image 1 to Image 2 using only one transformation.



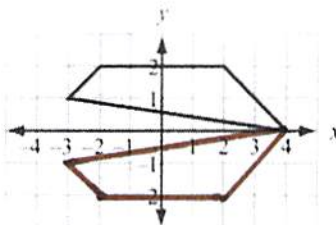
- ① Ref. over y-axis
 ② Trans. 4 units right.

Directions: Draw the image of each figure using the given transformation.

- 3) Given the rule $(x, y) \rightarrow (x - 3, y + 1)$

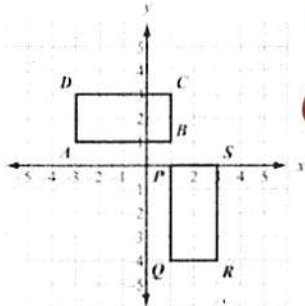


- 4) Reflect across the x-axis.

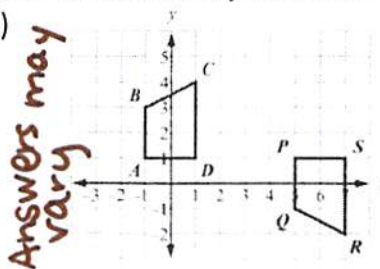


Directions: Describe the sequence of transformations that can be used to map ABCD to PQRS.

- 5) ① rotate 90° CW about A
 ② translate 4 right & 1 down



- 6) ① reflect over $y = 1$
 ② translate 6 units right

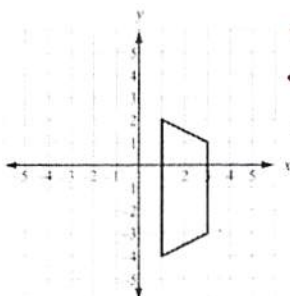


Answers Examples may vary

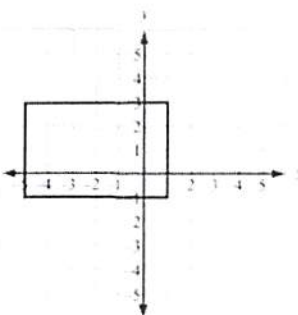
Answers may vary

Direction: Describe every transformation that can map the image onto itself. (The pre-image maps onto the image using exactly one transformation.)

- 7) • rotation 360°
 • dilation by 1
 • reflect over $y = -1$



- 8) • rotation 360°
 • dilation by 1
 • reflect over $x = -2$
 • reflect over $y = 1$



Directions: Select the best answer.

9) A segment has vertices at A (3, 5) and B (2, -1). What are the coordinates of B' if the segment has been reflected over $y = -2$?

- A. (2, -3) B. (3, -1) C. (2, 5) D. (1, 5)

10) A triangle has vertices at A (-2, 2), B (-1, 2) and C (-1, 4). Which transformation would produce an image with vertices A' (2, 2), B' (1, 2) and C' (1, 4)?

- A. Reflection over $y = 0$ C. Rotation 90° CW about the origin
B. Rotation 180° CCW about the origin D. Reflection over the y-axis

11) A triangle has vertices at A (-2, 2), B (-1, 2) and C (-1, 4). Which transformation would produce an image with vertices A' (-6, 2), B' (-3, 2) and C' (-3, 4)?

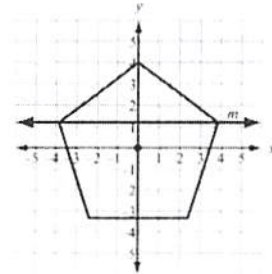
- A. Dilation by a scale factor of 3 C. Vertical Stretch by 3
 B. Horizontal Stretch by 3 D. Translation left 4 units

12) A segment has vertices at G (6, 7) and H (3, 2). Which transformation would produce an image with vertices G'(-6, -7) and H' (-3, -2).

- A. 90° CCW rotation about the origin C. 270° CCW rotation about the origin
B. Reflection across $y = -x$ D. 180° CW rotation about the origin

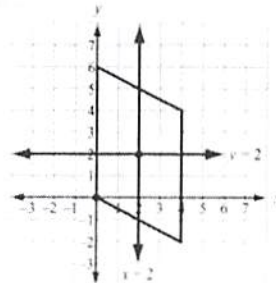
13) A regular pentagon is centered about the origin and has a vertex at (0, 4). Which transformation maps the pentagon to itself?

- A. a reflection across line m
B. a reflection across the x-axis
C. a clockwise rotation of 100° about the origin
 D. a clockwise rotation of 144° about the origin



14) Given the figure, which transformation maps the parallelogram to itself?

- A. a reflection across the line $x = 2$
B. a reflection across the line $y = 2$
 C. a rotation of 180° about the point (2, 2)
D. a rotation of 180° about the origin



15) Which sequence of transformations maps $\triangle ABC$ to $\triangle RST$?

- A. Reflect $\triangle ABC$ across the line $x = -1$.
Then, translate the result 1 unit down.
 B. Reflect $\triangle ABC$ across the line $x = -1$.
Then translate the result 5 units down.
C. Translate $\triangle ABC$ 6 units to the right.
Then, rotate the result 90° clockwise about the point (1, 1).
D. Translate $\triangle ABC$ 6 units to the right. Then, rotate the result 90° counterclockwise about the point (1, 1).

