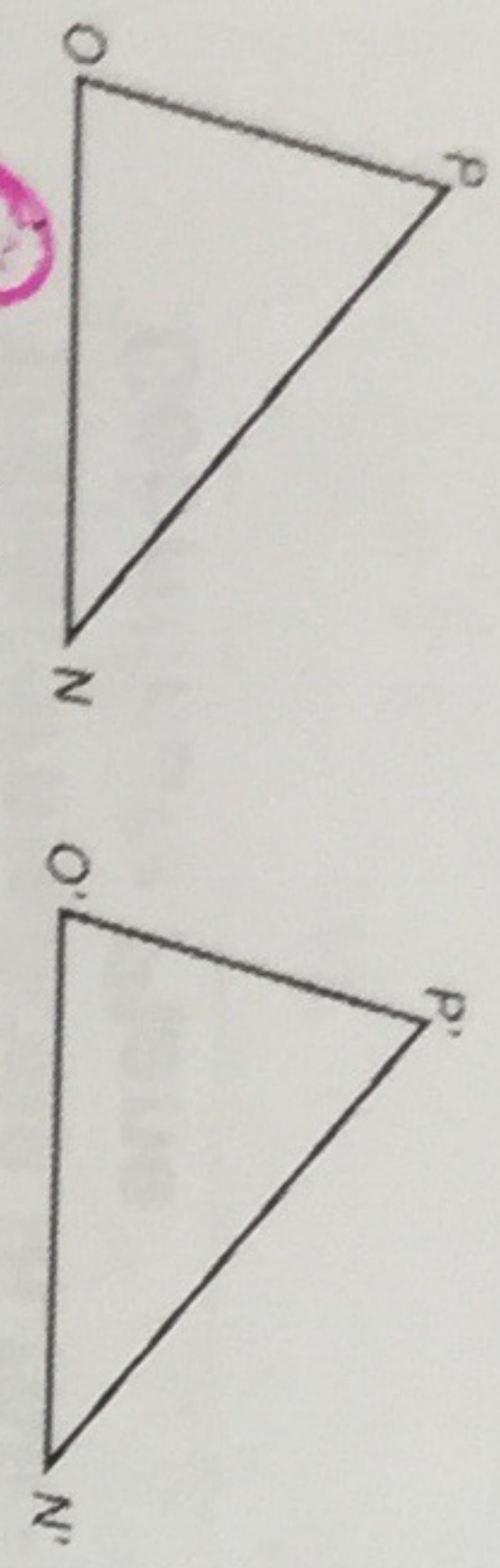


Transformations in the Coordinate Plane

Test Form A

Select the best answer.

1. What transformation is shown?

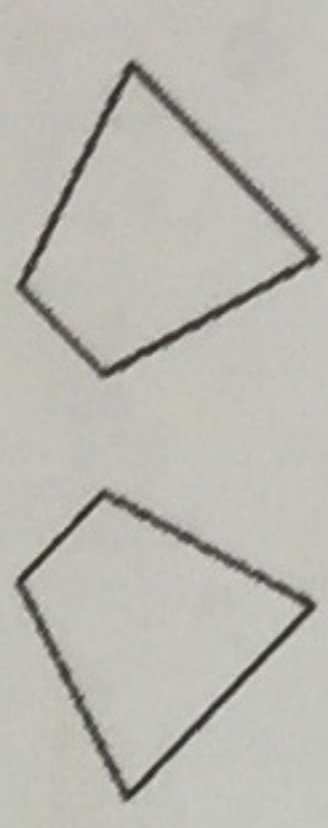


- A translation
- B reflection

2. What rule would you use to translate a figure in the coordinate plane 2 units to the right?

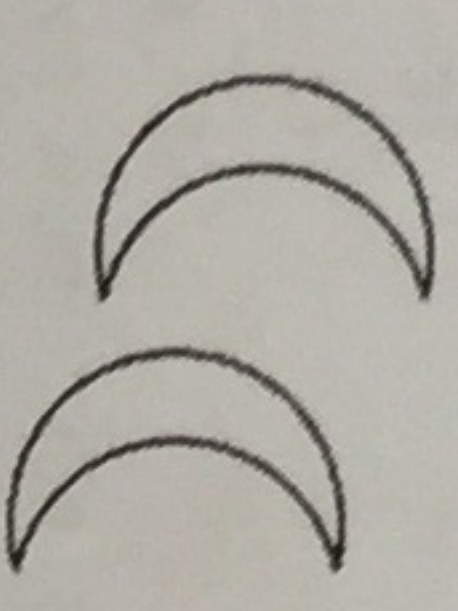
- F $(x, y) \rightarrow (x + 2, y)$
- G $(x, y) \rightarrow (x, y + 2)$

3. Is the transformation a reflection?



- A yes
- B no

4. Is the transformation a translation?

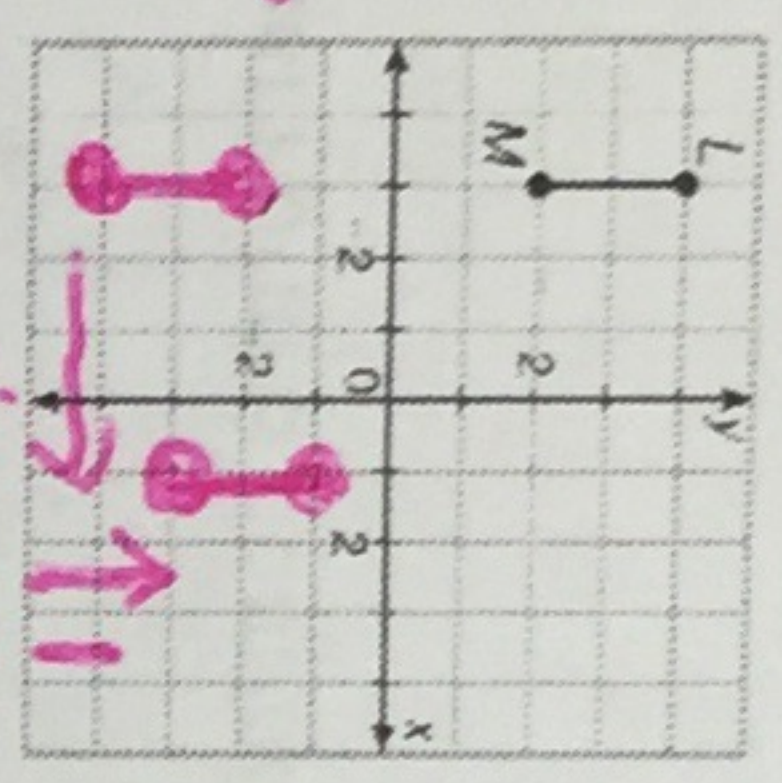


- F yes
- G no

5. What is the image of $(5, 4)$ when it is rotated 180° about the origin?

- A $(-5, -4)$
- B $(-4, 5)$
- C $(-5, 4)$
- D $(4, 5)$

6. If \overline{LM} is reflected across the x-axis and then translated along the vector $\langle 4, 1 \rangle$, in which quadrant is the final image?

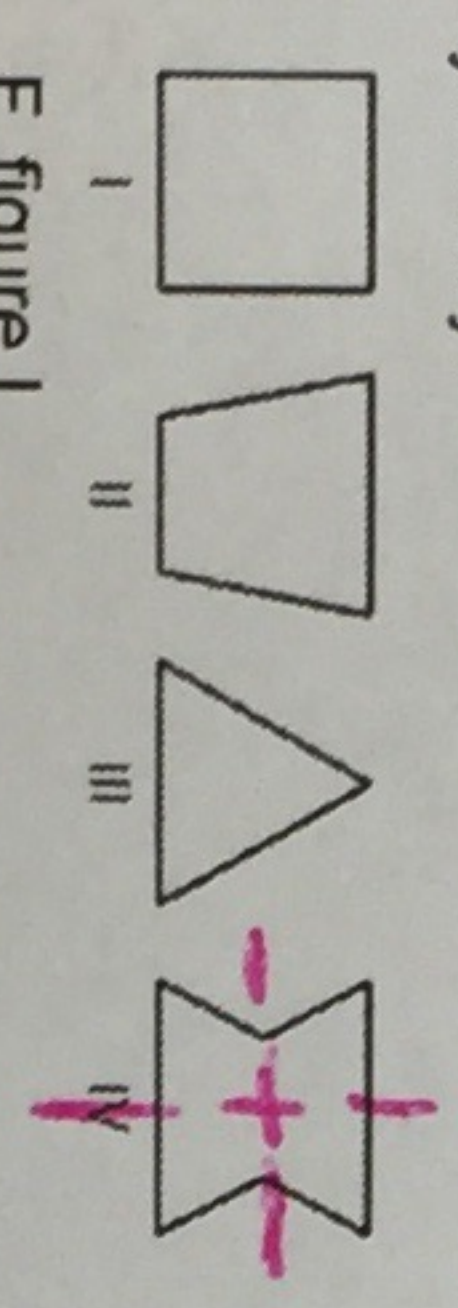


- F Quadrant I
- G Quadrant II
- H Quadrant III
- J Quadrant IV

7. The composition of two reflections across parallel lines is equivalent to which type of transformation?

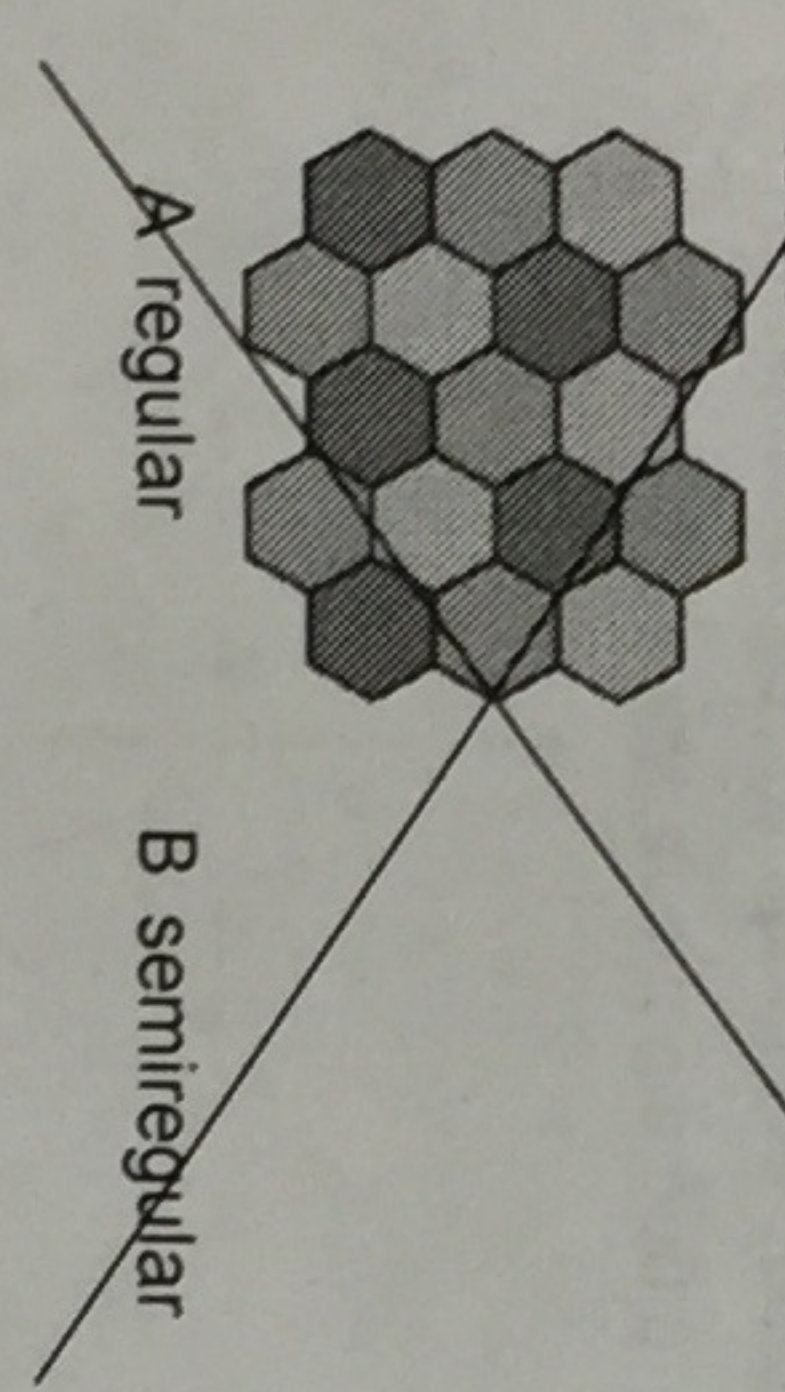
- A translation
- B rotation

8. Which figure has exactly two lines of symmetry?



- F figure I
- G figure II
- H figure III
- J figure IV

9. What is the classification of the tessellation?



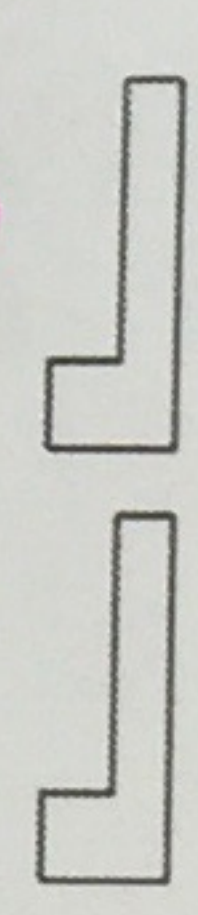
Transformations in the Coordinate Plane

Test Form A continued

10. The coordinates of the endpoints of a segment are $A(-2, 3)$ and $B(2, 1)$. Find the coordinates for the endpoints of the image of \overline{AB} after the translation $(x, y) \rightarrow (x + 3, y - 2)$.

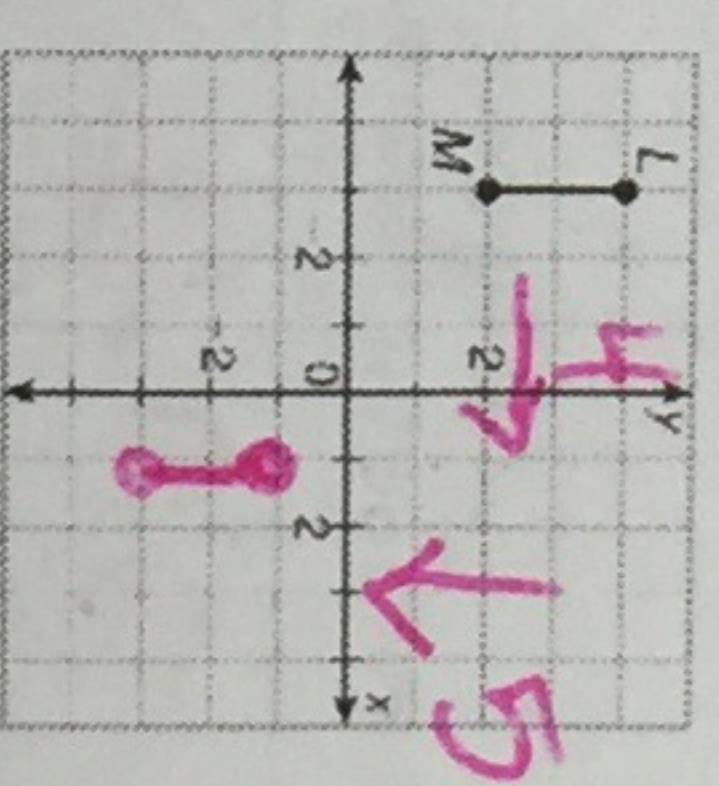
$A'(1, 1)$ $B'(5, -1)$

11. Write True or False. The transformation is a reflection

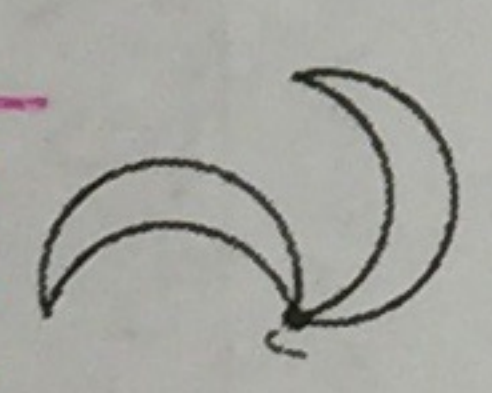


false

12. Draw the translation of \overline{LM} along the vector $\langle 4, -5 \rangle$.

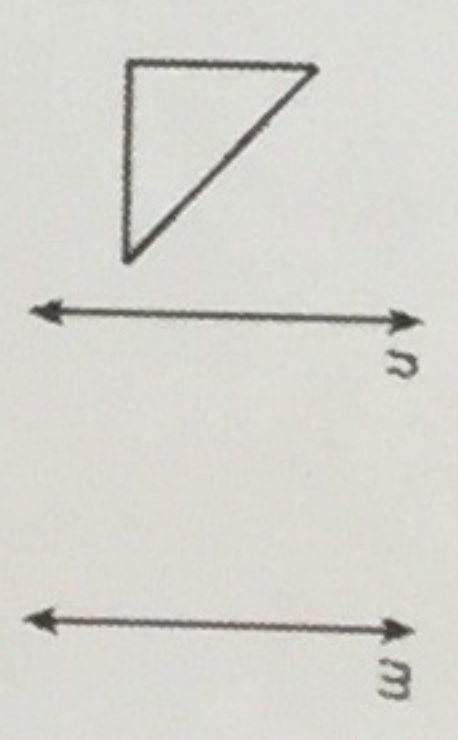


13. Write True or False. The transformation is a rotation about point J.



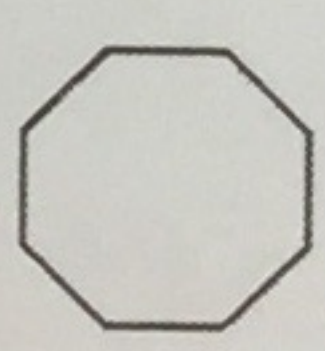
true

14. Identify a single transformation that is equivalent to reflecting the figure across line n and then reflecting the image across line m .



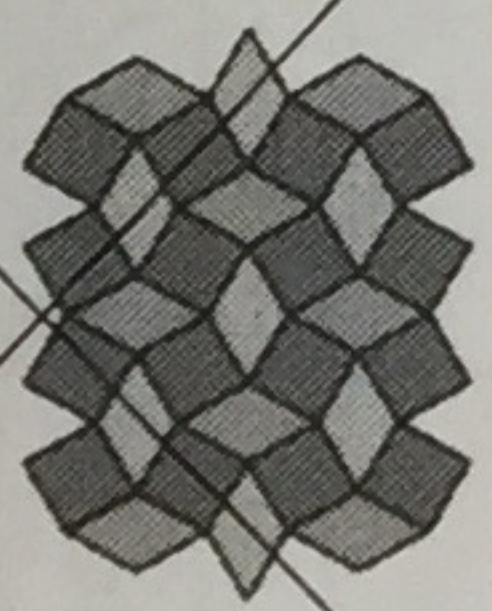
translation

15. Write True or False. The figure has line symmetry. If true, tell how many lines of symmetry.



True, 8

16. Write True or False. The pattern is a tessellation.

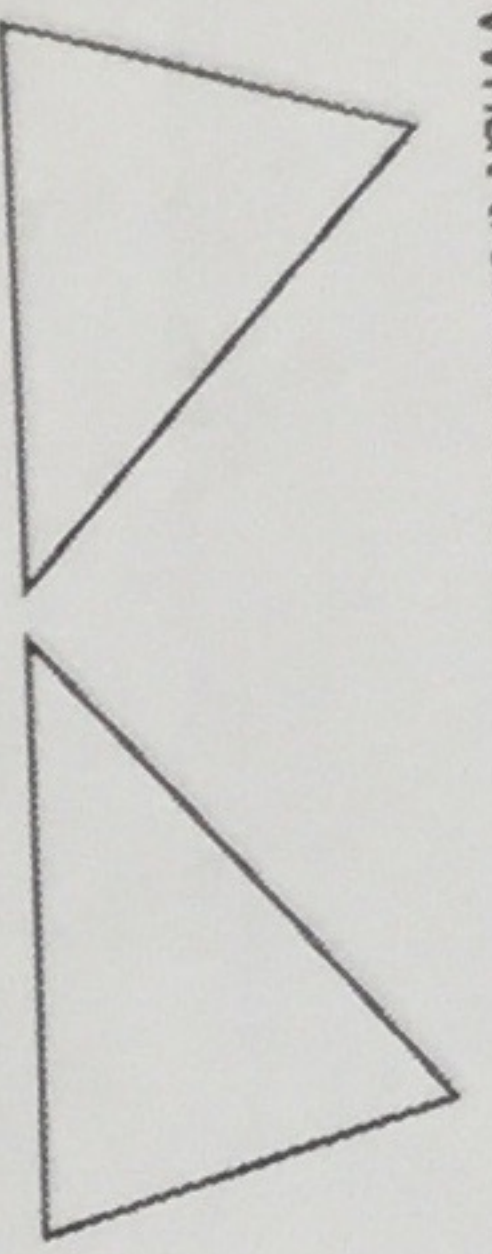


17. Identify a pair of regular polygons that can be used to make a semiregular tessellation.

Transformations in the Coordinate Plane

Test Form B Select the best answer.

1. What transformation is shown?



- A rotation
- B reflection
- C translation
- D image

2. Given a point in the coordinate plane, the rule $(x, y) \rightarrow (x + 2, y - 3)$ translates the point in which direction?

- F 2 units to the left and 3 units up
- G 3 units to the left and 2 units down
- H 3 units right and 2 units up
- J 2 units to the right and 3 units down

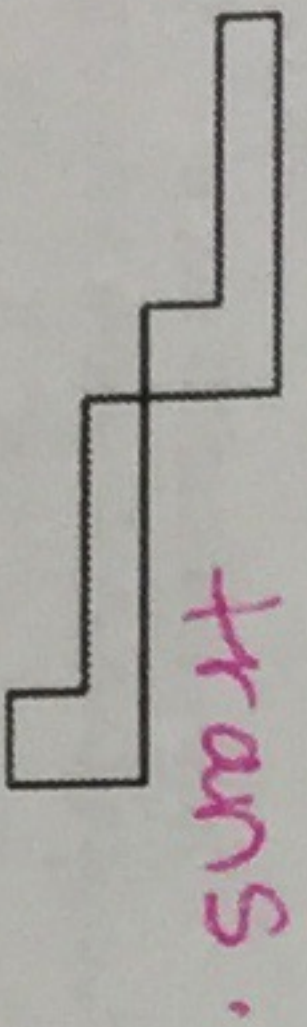
3. When the point $(-3, 2)$ is reflected across the y -axis, what is the resulting image?

- A $(-3, -2)$
- B $(3, -2)$
- C $(2, -3)$
- D $(3, 2)$

4. What is the image of $(3, 6)$ when it is translated along the horizontal vector $\langle -2, 0 \rangle$?

- F $(3, -4)$
- G $(1, 4)$
- H $(1, 6)$
- J $(5, 6)$

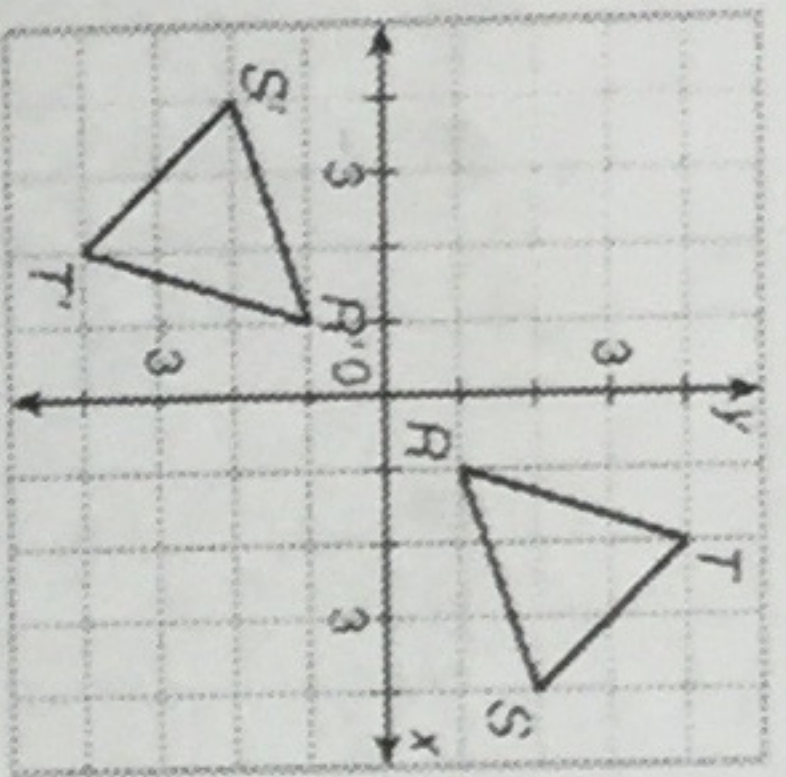
5. Is the transformation a rotation?



- A yes
- B no

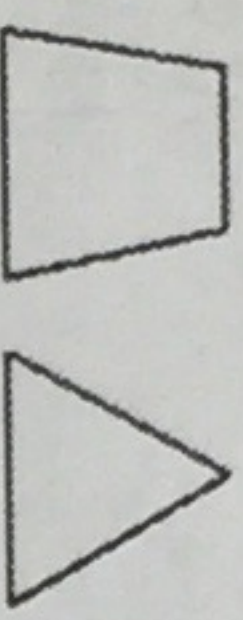
Transformations in the Coordinate Plane

6. $\triangle RST$ is reflected across the y -axis, and then its image is reflected across the x -axis. Which single transformation moves the triangle from its starting position to its final position?



- F a rotation of 90° about the origin
- G a rotation of 180° about the origin

7. Which figure has rotational symmetry?

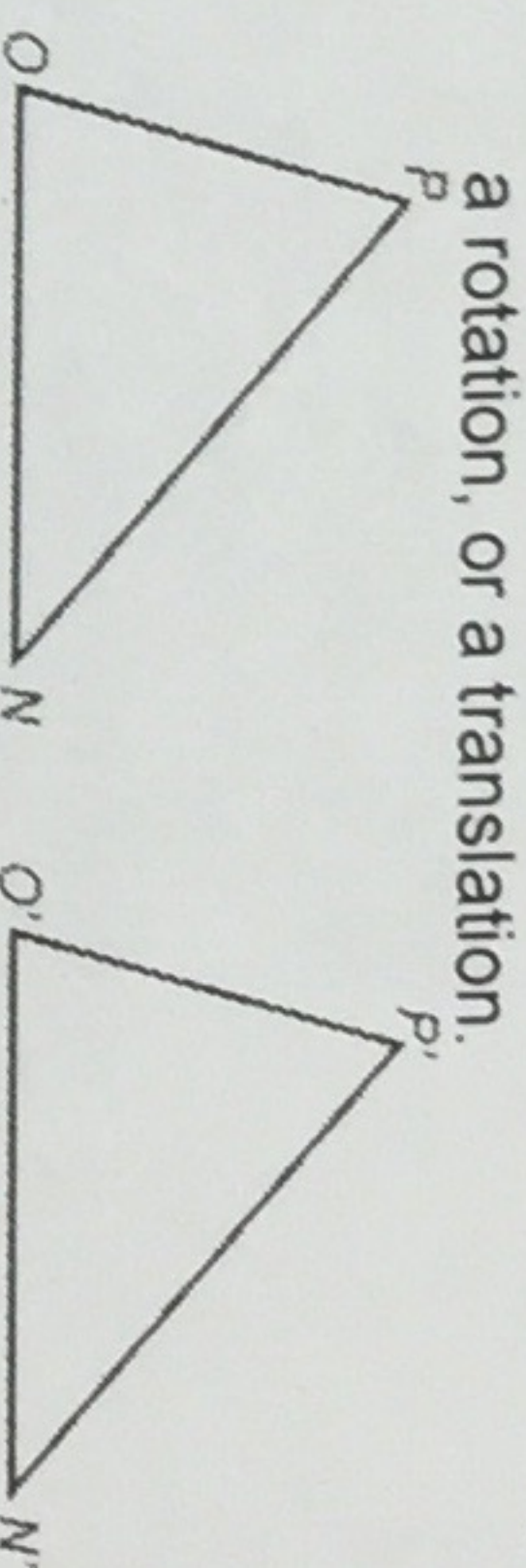


- A trapezoid
- B triangle

10. The endpoints of \overline{MN} are $M(2, 5)$ and $N(8, -1)$. Which shows the endpoints of the segment after it is translated along the vector $\langle -2, 3 \rangle$?

- F $M'(-4, -10)$, $N'(24, -3)$
- G $M'(-4, 15)$, $N'(-16, -3)$
- H $M'(0, 3)$, $N'(11, 2)$
- J $M'(0, 8)$, $N'(6, 2)$

11. Identify the transformation as a reflection, a rotation, or a translation.

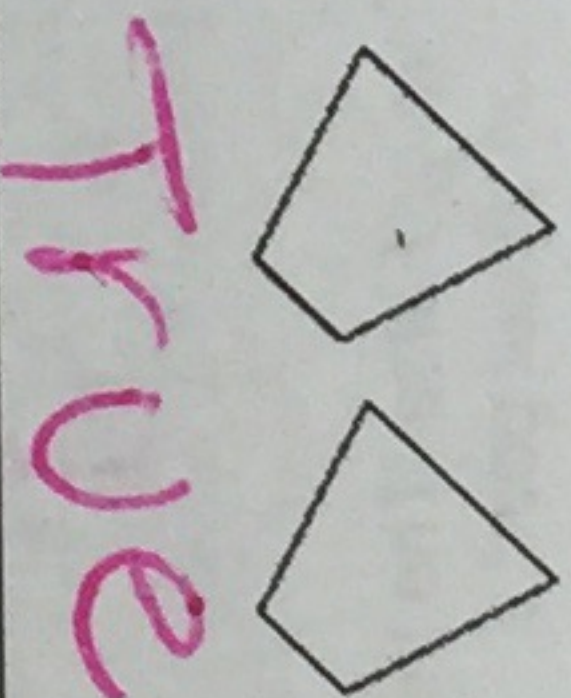


translation

12. A triangle with vertices $P(-5, 6)$, $Q(-2, 1)$, and $R(-3, -3)$ is reflected across the y -axis. Identify the coordinates of the image of point Q .

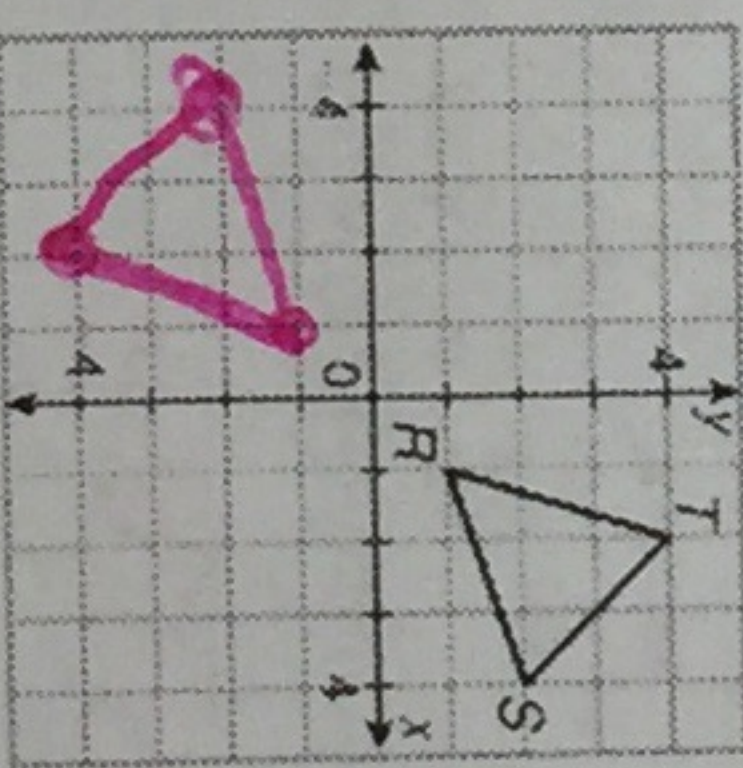
$Q(2, 1)$

13. Write True or False. The transformation is a translation.

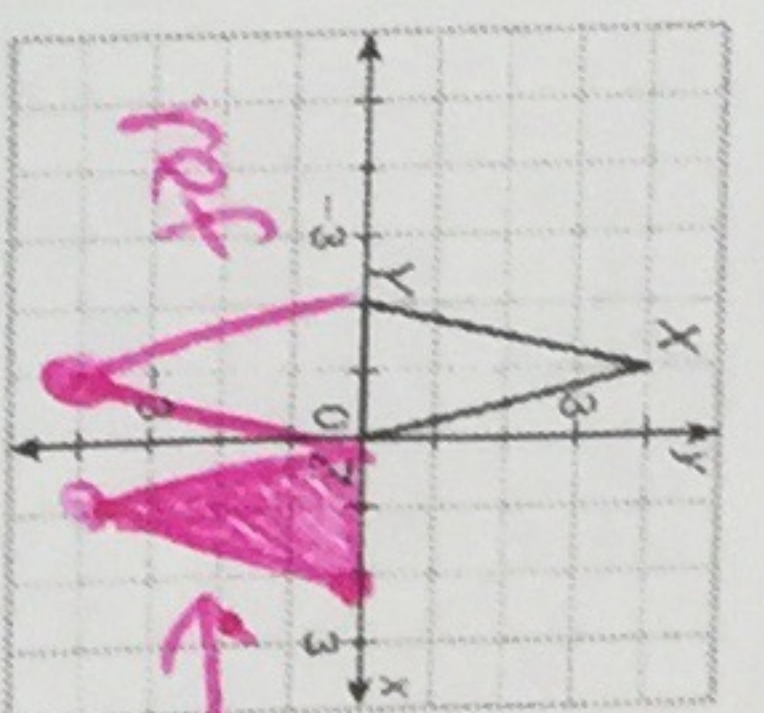


True

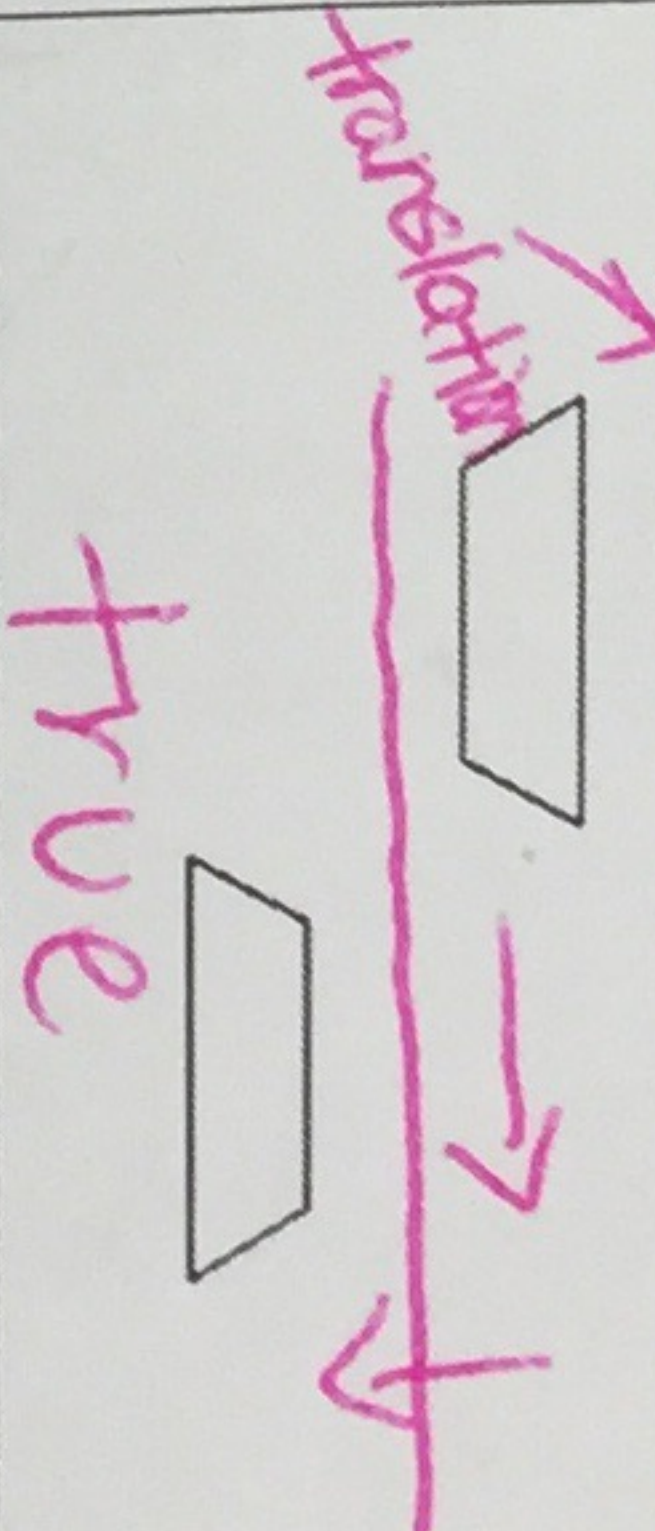
14. Draw the image of $\triangle RST$ after a rotation of 180° about the origin.



15. Draw the result of reflecting the figure across the x -axis and then translating it along the vector $\langle 2, 0 \rangle$.

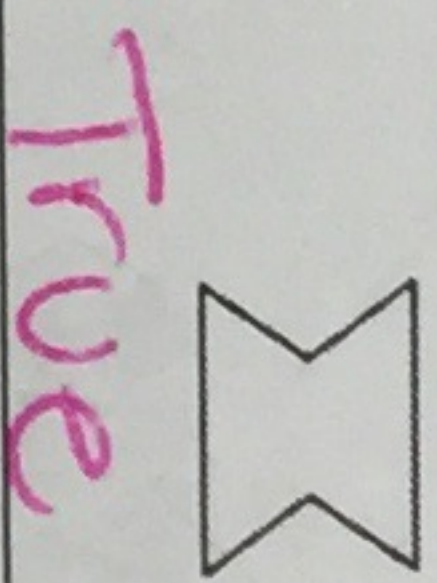


16. Write True or False. The transformation is a glide reflection.



True

17. Write True or False. The figure has rotational symmetry.



True

Test Form B continued