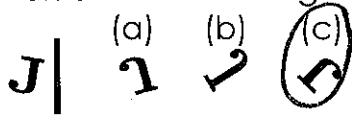
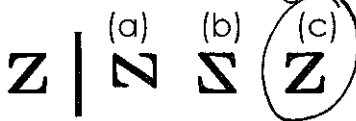


Name: key Date: _____

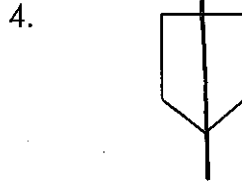
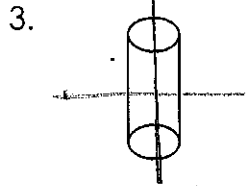
1. Which one of the images can be **rotated** to match the letter J on the left?



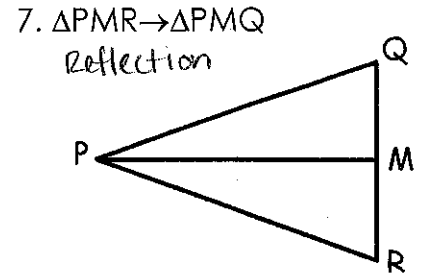
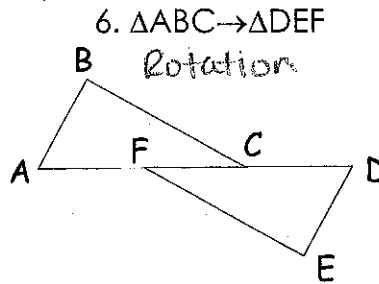
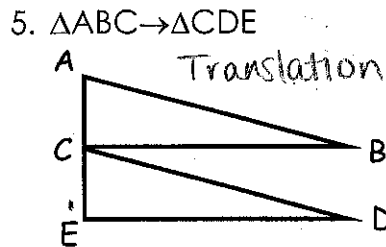
2. Which one of the images can be **reflected** to match the letter Z on the left?



How many lines of symmetry does the given object appear to have?

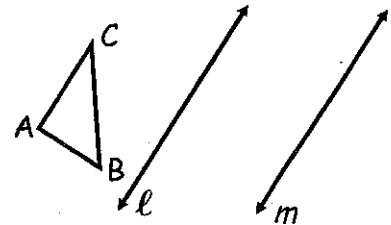


Name the transformation that maps:



8. In the diagram, $l \parallel m$ and $\triangle ABC$ is reflected first in line l and then in line m . This set of reflections is equivalent to doing what kind of singular transformation?

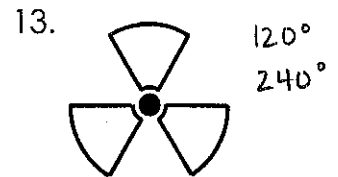
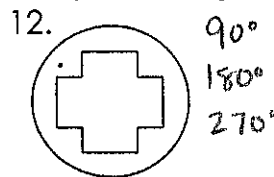
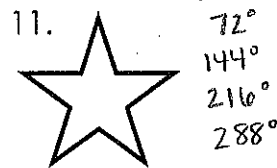
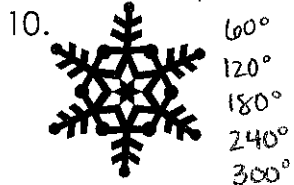
Translation



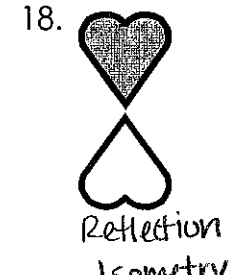
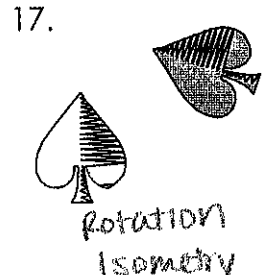
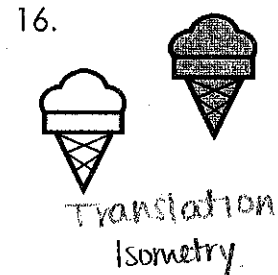
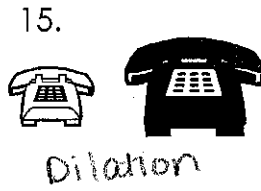
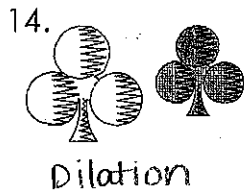
9. If l and m were intersecting lines, and $\triangle ABC$ was reflected first in line l and then in line m , what would the resulting transformation be?

Rotation

Describe any **rotations** (of 180° or less) that will map each figure onto itself.

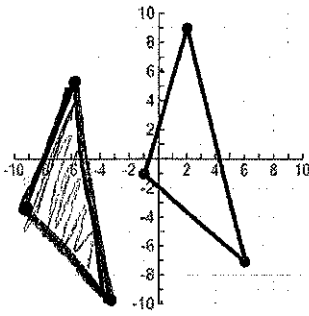


An isometry is a transformation in the plane that preserves length. Identify each **transformation** and each **isometry**. (Preimages are unshaded and images are shaded.)

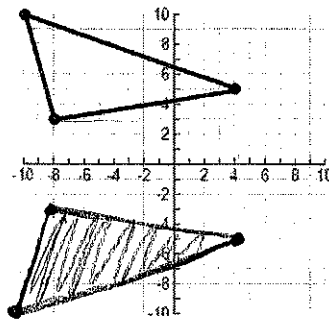


Draw the image of each figure, using the given transformation.

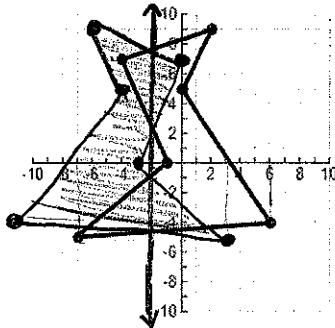
19. Translation $(x, y) \rightarrow (x - 8, y - 3)$



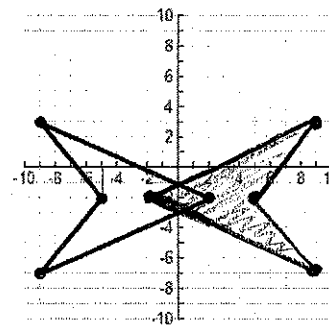
20. Reflection across the **x-axis**.



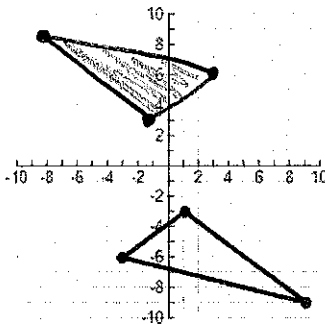
21. Reflection across the line $x = -2$



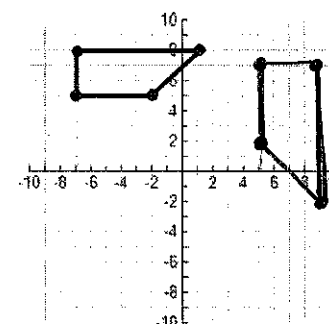
21. Reflection across the **y-axis**.



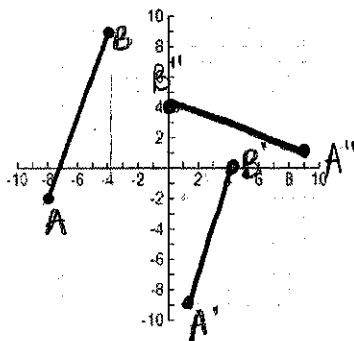
23. Rotation 180° about the origin



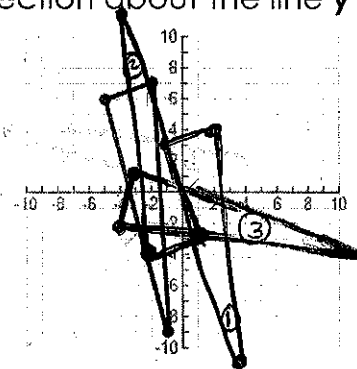
24. Rotation 90° clockwise about the origin.



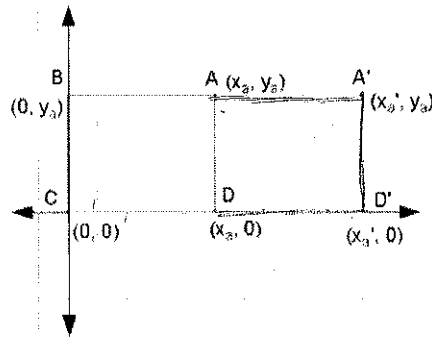
25. Translation $(x, y) \rightarrow (x + 9, y - 8)$
 Rotation 90° CCW about the origin



26. Translation $(x, y) \rightarrow (x + 4, y - 2)$
 Rotation 180° about the origin.
 Reflection about the line $y = x$.



13. Examine the diagram above. Note that B' is at the same point as B, and C' is at the same point as C, although these are not labeled.

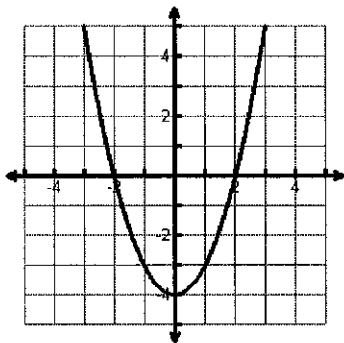


- a. Is this an isometry? Is it a dilation?
 No Yes
- b. What transformation has taken place to map ABCD to A'B'C'D'? Be specific.
 Horizontal Stretch
- c. Write the function/rule that maps ABCD to A'B'C'D'.
 $(x, y) \rightarrow (2x, y)$

14. Specify if the following equations or graphs are even, odd, or neither.

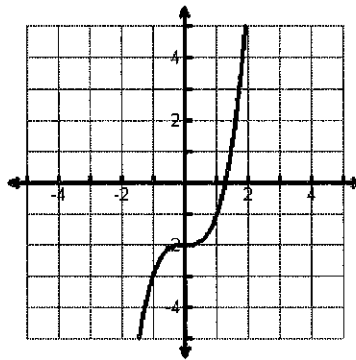
- a. $y = 2x^3 - 4$
 neither
- b. $y = 5x^6 - 4x^2$
 even
- c. $y = 10$
 even
- d. $y = \frac{1}{2}x$
 odd

e.



even

f.



neither