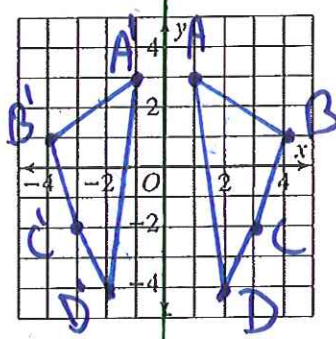


### Practice 9-9

### Symmetry and Reflections

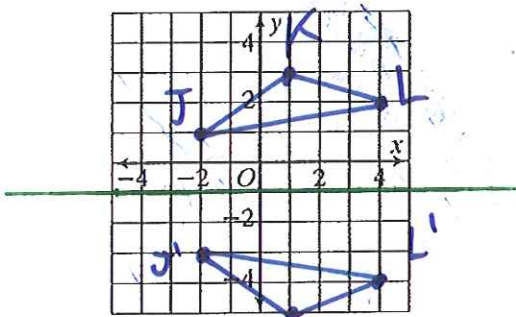
The vertices of a polygon are listed. Graph each polygon and its image after a reflection over the given line. Name the coordinates of the image.

1.  $A(1, 3), B(4, 1), C(3, -2), D(2, -4); x = 0$



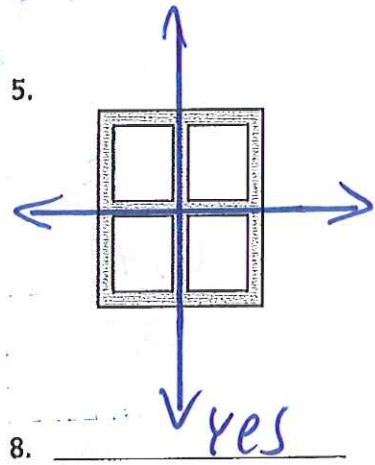
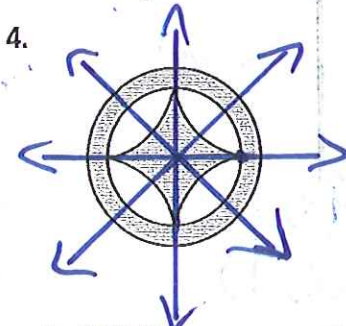
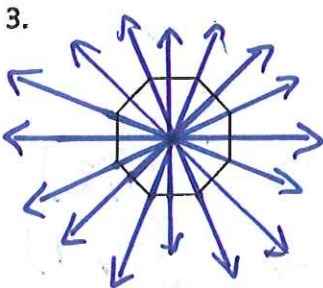
- $A'(-1, 3)$   $B'(-4, 1)$   
 $C'(-3, -2)$   $D'(-2, -4)$

2.  $J(-2, 1), K(1, 3), L(4, 2); y = -1$



- $J'(-2, -3)$   $K'(1, -5)$   
 $L'(4, -4)$

Draw all the lines of symmetry for each figure.

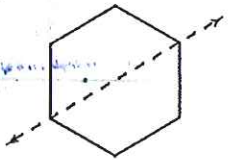
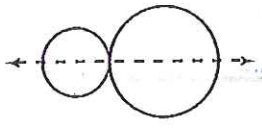
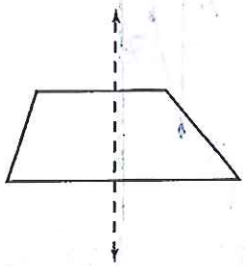


Is the dashed line a line of symmetry? Write yes or no.

6. No

7. yes

8. yes



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## Reteaching 9-9

### Symmetry and Reflections

Graph the polygon's image after a reflection over the line  $x = 1$ . Name the coordinates of the image.

Graph  $x = 1$ .

Point  $A$  is 1 unit left of  $x = 1$ .

Plot  $A'$  with the same  $y$ -coordinate and 1 unit right of  $x = 1$ .

Point  $B$  is 3 units left of  $x = 1$ .

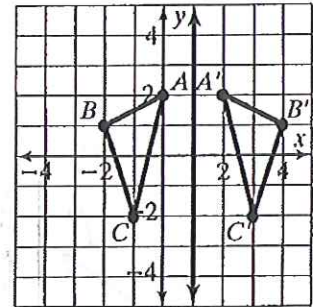
Plot  $B'$  3 units right of  $x = 1$ .

Point  $C$  is 2 units left of  $x = 1$ .

Plot  $C'$  2 units right of  $x = 1$ .

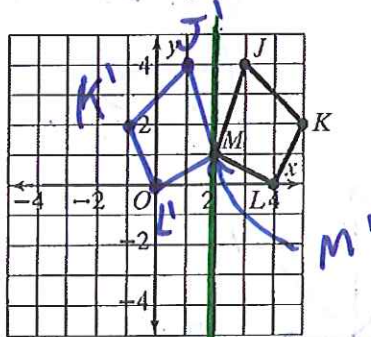
Read the coordinates.

$A'(2, 2)$ ,  $B'(4, 1)$ ,  $C'(3, -2)$



Graph each polygon's image after a reflection over the given line. Name the coordinates of the image.

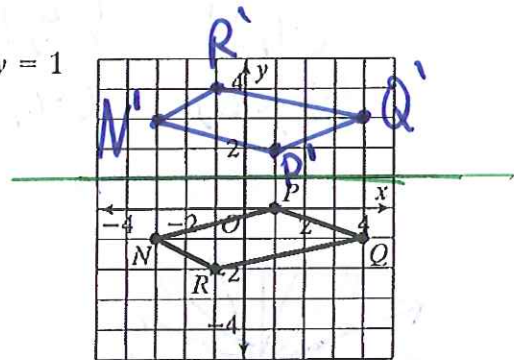
1.  $x = 2$



$J'(2, 4)$   $K'(-2, 2)$

$L'(0, 0)$   $M'(2, 1)$

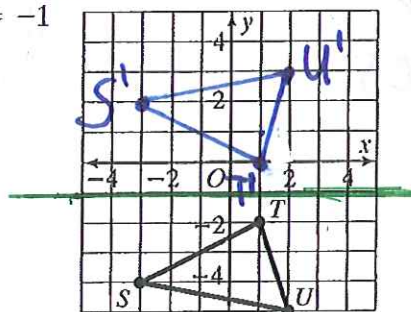
2.  $y = 1$



$N'(-3, 3)$   $P'(1, 2)$

$Q'(4, 3)$   $R'(-1, 4)$

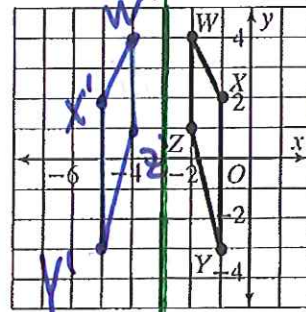
3.  $y = -1$



$S'(-3, 2)$   $T'(1, 0)$

$U'(2, 3)$

4.  $x = -3$



$W'(-4, 4)$   $X'(-5, 2)$

$Y'(-5, -3)$   $Z'(-4, 1)$

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