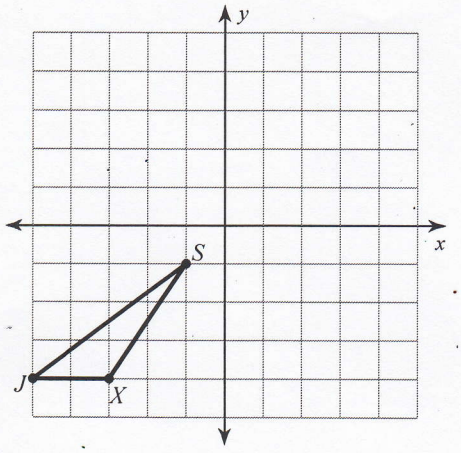
Coordinate Algebra Name_____

MILESTONE REVIEW Coach Book -- Unit 5

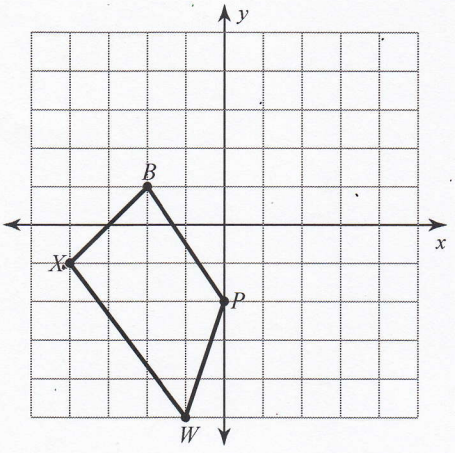
Date_____ Period____

Graph the image of the figure using the transformation given. Then write the vertices of the image.

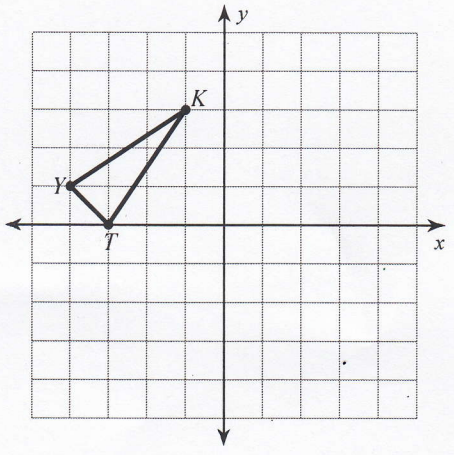
1) rotation 90° clockwise about the origin



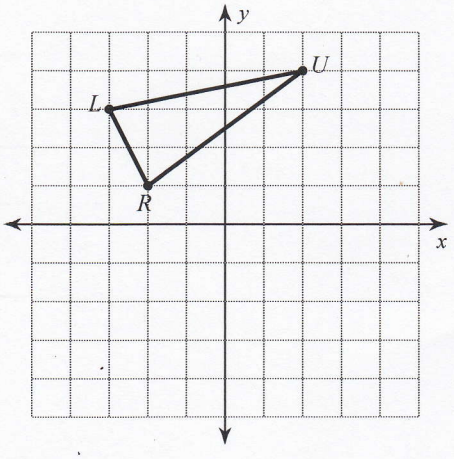
2) rotation 180° about the origin



3) translation: 3 units right and 4 units down



4) reflection across $x = 1$



Write the vertices of the image after the given transformation.

5) reflection across the y-axis
$A(1, -1), B(-2, 3), S(3, 3), V(4, -2)$

6) rotation 90° counterclockwise about the origin
$G(-1, -4), C(1, 1), F(3, 0), Y(3, -5)$

Find the coordinates of the vertices of each figure after the given transformation.

7) reflection across the x-axis
$S(-5, -4), B(-2, 0), T(0, -3)$

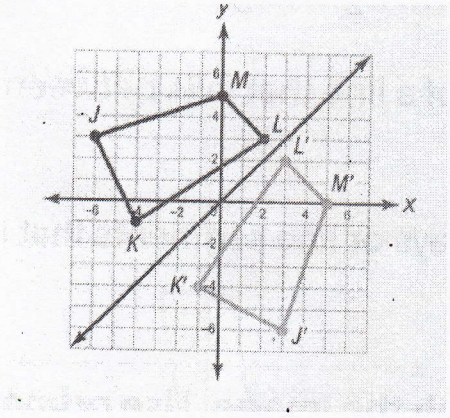
A) $B'(0, 0), T'(-2, -3), S'(3, -4)$
B) $B'(-2, 0), T'(0, 3), S'(-5, 4)$
C) $B'(0, 2), T'(3, 0), S'(4, 5)$
D) $B'(0, -2), T'(-3, 0), S'(-4, -5)$

8) reflection across $y = x$
$Q(1, 0), Y(0, 4), N(1, 4), E(3, 1)$

A) $Y'(-4, 0), N'(-4, -1), E'(-1, -3), Q'(0, -1)$
B) $Y'(0, 0), N'(1, 0), E'(3, 3), Q'(1, 4)$
C) $Y'(4, 0), N'(4, 1), E'(1, 3), Q'(0, 1)$
D) $Y'(0, -4), N'(1, -4), E'(3, -1), Q'(1, 0)$

9. Point P at (-4, 3) is translated to form image, point P', at (6,1). Write a function to represent the translation. If point R (-5, 6) and point S (1, 2) are also translated using the rule, what will be the coordinates of their images? R' _____ S'_____

10.



Quadrilateral JKLM and its reflected image are shown. Which statement is true of these two quadrilaterals?

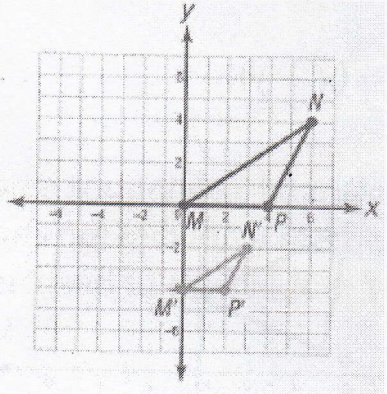
a) The image shows the result of a reflection across the x-axis.

b) The path that point L takes across the line of reflection is perpendicular to the line of reflection.

c) Each point (x, y) on quadrilateral JKLM maps to point (-y, x) on its image.

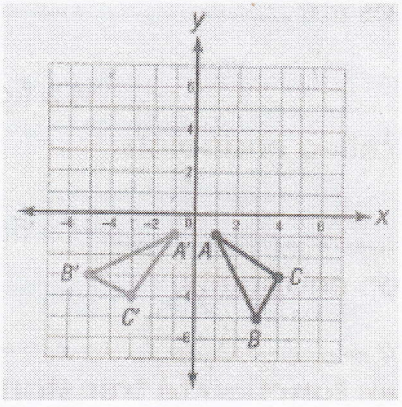
d) Corresponding sides of quadrilateral JKLM and its image are parallel.

11. Which sequence of transformations can be used to map ΔMNP onto $\Delta M'N'P'$?



A. dilation by a factor of ½ followed by a translation 4 units down
B. dilation by a factor of ½ followed by a $270°$ rotation
C. vertical shrink by a factor of ½ followed by a translation 4 units down
D. vertical shrink by a factor of ½ followed by a $270°$ rotation

12. ΔABC is transformed to $\Delta A'B'C'$. Which statement is **NOT** true?



A. This transformation shows the image of ΔABC after a $270°$ rotation about the origin
B. This transformation preserved the distances and angle measure of the original figure.
C. Sides $\overline{AB}$ and $\overline{A'B'}$ lie on lines that are parallel to one another.
D. Sides $\overline{BC}$ and $\overline{B'C'}$ lie on lines that are perpendicular to one another.