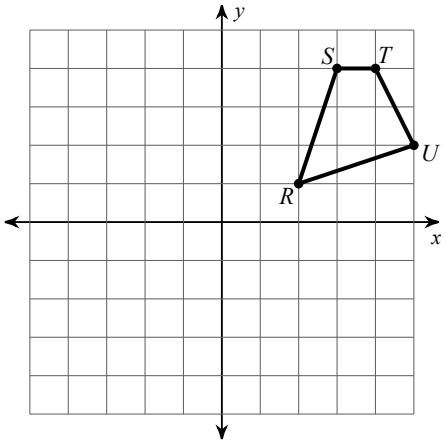
Geometry Name_____

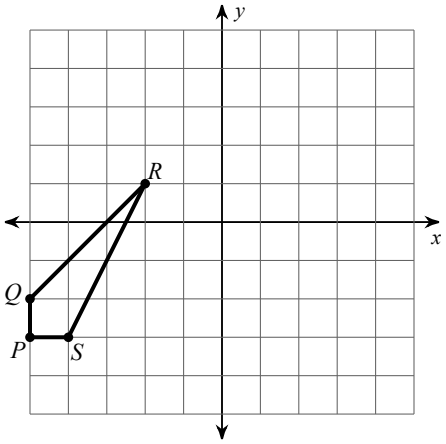
WS PC #1 Review Unit 4

Graph the image of the figure using the transformation given.

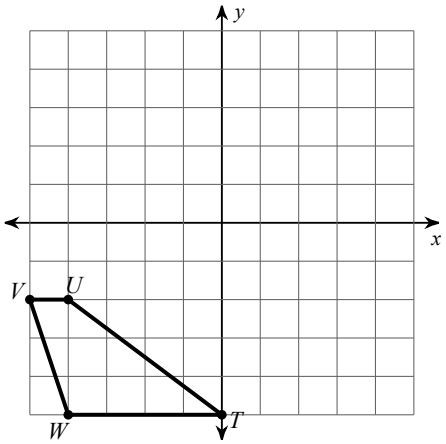
1) rotation 90° clockwise about the origin



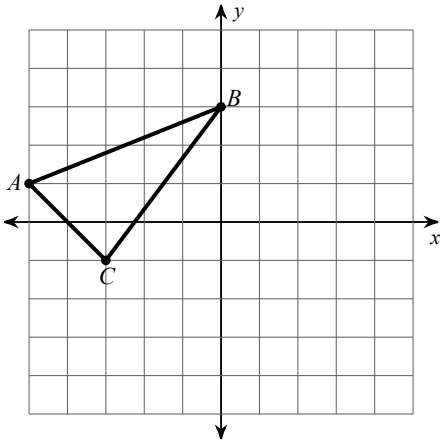
2) translation: 7 units right and 2 units up



3) rotation 180° about the origin



4) reflection across $y = x$



Write a rule to describe each transformation.

5) $V(2, -3)$, $W(0, 1)$, $X(4, 3)$, $Y(5, 0)$
to
$V'(3, 2)$, $W'(-1, 0)$, $X'(-3, 4)$, $Y'(0, 5)$

6) $I(-5, -1)$, $H(-5, 0)$, $G(-2, 3)$, $F(-1, -1)$
to
$H'(-5, 4)$, $G'(-2, 1)$, $F'(-1, 5)$, $I'(-5, 5)$

7) $U(1, -5)$, $V(2, -4)$, $W(5, -5)$
to
$V'(-4, 2)$, $W'(-5, 5)$, $U'(-5, 1)$

8) $U(-2, 0)$, $V(-3, 5)$, $W(-1, 4)$
to
$U'(-1, -4)$, $V'(-2, 1)$, $W'(0, 0)$

9) $H(-5, 0), I(-4, 3), J(0, 1)$
to
$H'(-1, 0), I'(0, 3), J'(4, 1)$

10) $M(-5, 3), L(0, 5), K(0, 3)$
to
$L'(-2, 5), K'(-2, 3), M'(3, 3)$

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

11) reflection across $x = 1$
$K(1, 1), L(1, 5), M(3, 2)$

12) rotation 90° clockwise about the origin
$I(-4, 3), J(-3, 4), K(-2, 2)$

13) reflection across the x-axis
$W(-2, -1), V(-3, 4), U(0, 1)$

14) translation: $(x, y) \rightarrow (x + 4, y + 8)$
$S(1, -5)$

15) reflection across $y = x$
$I(-1, -1)$

16) rotation 180° about the origin
$Q(-4, 4)$

17) reflection across $y = 1$
$X(1, 0)$

18) translation: $(x, y) \rightarrow (x - 3, y + 4)$
$K(5, 1)$

19) Find the image of point $B(-2, 5)$ after the glide reflection.

translation $(x, y) \rightarrow (x - 4, y + 6)$ reflection across $y = -x$

20) Preimage $A(3, -5)$ is translated along a vector to its image $A'(-6, 0)$. What's the component form of the vector?

21) How many lines of symmetry would a regular hexagon have?