Name_____

Assignment

Date_____ Period_____

Describe each transformation by writing a rule and by explaining the transformation with words.

1) $R(-1, -3)$, $S(1, -2)$, $T(3, -4)$
     to
   $R'(-3, 4)$, $S'(-1, 5)$, $T'(1, 3)$

   translation: $(x, y) \rightarrow (x - 2, y + 7)$

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

   rotation 90° clockwise about the origin

3) $E(-1, 3)$, $D(-1, 4)$, $C(3, 4)$, $B(0, 2)$
     to
   $E'(-2, 3)$, $D'(-2, 4)$, $C'(2, 4)$, $B'(-1, 2)$

   translation: $(x, y) \rightarrow (x - 1, y)$

4) $C(1, 0)$, $D(2, 3)$, $E(4, -1)$
     to
   $C'(-1, 0)$, $D'(-2, -3)$, $E'(-4, 1)$

   rotation 180° about the origin

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

   reflection across $y = x$

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

   rotation 90° counterclockwise about the origin

7) $E(-4, 1)$, $F(-4, 3)$, $G(0, 1)$, $H(-1, -3)$
     to
   $F'(-4, -3)$, $G'(0, -1)$, $H'(-1, 3)$, $E'(-4, -1)$

   reflection across the x-axis

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

   reflection across the y-axis

9) $M(-5, -5)$, $L(-5, -1)$, $K(-3, -4)$
     to
   $M'(-5, 5)$, $L'(-1, 5)$, $K'(-4, 3)$

   rotation 90° clockwise about the origin

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

   rotation 90° counterclockwise about the origin

11) $Q(-1, -3)$, $R(-1, -2)$, $S(3, -1)$, $T(2, -3)$
     to
   $R'(2, 1)$, $S'(1, -3)$, $T'(3, -2)$, $Q'(3, 1)$

   reflection across $y = -x$

12) $S(-3, -3)$, $T(-4, -1)$, $U(0, -1)$, $V(-3, -4)$
     to
   $S'(-3, 2)$, $T'(-4, 4)$, $U'(0, 4)$, $V'(-3, 1)$

   translation: $(x, y) \rightarrow (x, y + 5)$

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

   rotation 180° about the origin

14) $S(0, 3)$, $T(0, 4)$, $U(3, 5)$, $V(5, 1)$
     to
   $S'(-2, -1)$, $T'(-2, 0)$, $U'(1, 1)$, $V'(3, -3)$

   translation: $(x, y) \rightarrow (x - 2, y - 4)$