Name_____Per_____Col_____HW #_____

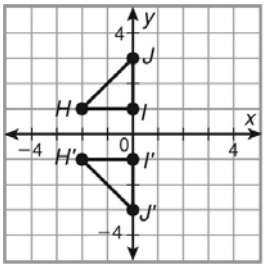
Geometry worksheet 1-7

1. A _____ (or flip) is a transformation across a line.

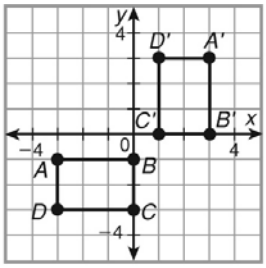
2. A translation (or _____) is a transformation in which all the points of a figure move the same distance in the same direction.

3. A _____ (or turn) is a transformation about a point.

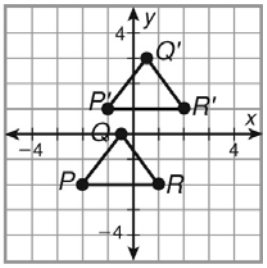
Match the number below each diagram with the name of the transformation pictured. Then use arrow notation to describe each transformation.



1



2



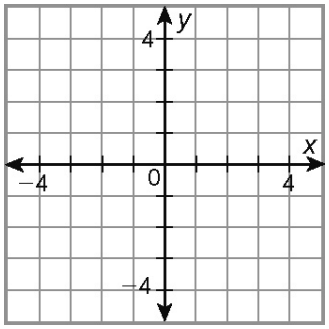
3

4. rotation _____ 5.translation _____ 6. reflection _____

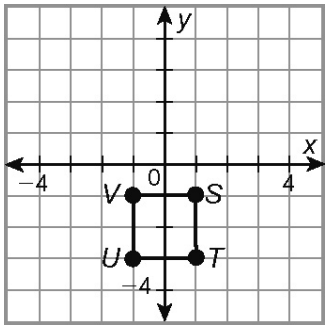
Draw each figure and its image. Then identify the transformation.

7. A figure has vertices at *X*(3, -3), *Y*(1, -2), and *Z*(3, 0). After a transformation, the image of the figure has vertices at *X'* (-3, -3), *Y'* (-1, -2), and *Z'* (-3, 0). Draw and label the preimage and the image. Then identify the transformation.

_____



8. Draw and label the image of *STUV* after the translation $(x, y) \rightarrow (x, y + 5)$.



Find the coordinates for each image after the given translation.

9. preimage: ΔFGH at $F(9, 8)$, $G(-6, 1)$, $H(-2, 4)$
   rule: $(x, y) \rightarrow (x - 3, y + 1)$ $F'(\quad,\quad)$, $G'(\quad,\quad)$, $H'(\quad,\quad)$

10. preimage: ΔBCD at $B(0, 2)$, $C(-7, 1)$, $D(1, 5)$
    rule: $(x, y) \rightarrow (x + 7, y - 1)$ $B'(\quad,\quad)$, $C'(\quad,\quad)$, $D'(\quad,\quad)$

Review. SHOW WORK.

11. Find the midpoint of $\overline{QR}$ with endpoints $Q(1, -4)$ and $R(9, 3)$.

12. $M(7, 1)$ is the midpoint of $\overline{WX}$, and X has coordinates $(-1, 5)$.
    Find the coordinates of W.

13. Use the Distance Formula to find the length of a segment with endpoints (4, -2) and (-7, 1). Round the answer to the nearest tenth.

14. Use the graph and the Pythagorean Theorem to find the distance between the points $A(-2, 4)$ and $B(3, -4)$. Round the answer to the nearest tenth.