P.S. #6.5b – Review for Quiz #6 (Transformations)

Name: _____ Class: _____

1.) If the area of a triangle is 72, what is the area of the triangle after it is reflected in the x-axis?
   72

2.) If the perimeter of a hexagon is 9, what is the perimeter of the hexagon after a dilation with scale factor 10? **90**

3.) Which of the following words has point symmetry?
   (A) wow   (B) mom   (C) dog   (D) pod   *says pod upside down*

4.) Graph △ABC with coordinates $A(2,4)$, $B(4,6)$ and $C(4,2)$.
   a.) Dilate △ABC with a scale factor of ½. What are the coordinates of △$A'B'C'$?

   $A'(1,2)$ $B'(2,3)$ $C'(2,1)$
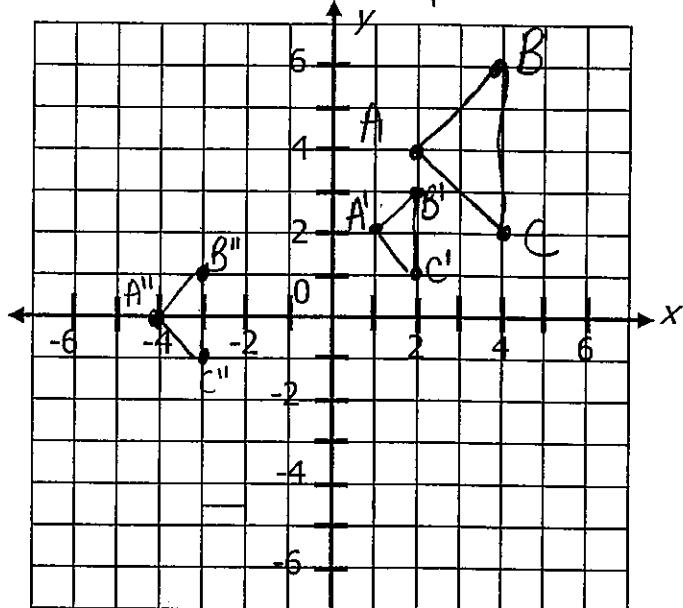
   b.) Consider the translation $(x,y) \rightarrow (x-5, y-2)$. What direction does this translation move the figure?

   **left 5
   down 2**

   c.) Translate △$A'B'C'$ using the rule $(x,y) \rightarrow (x-5, y-2)$. What are the coordinates of △$A''B''C''$?

   $A''(-4,0)$ $B''(-3,1)$ $C''(-3,-1)$

5.) Draw hexagon $JAYDEN$ with coordinates $J(1,2)$, $A(2,5)$, $Y(5,5)$, $D(6,2)$, $E(5,-1)$ and $N(2,-1)$. Then, draw pentagon $J'A'Y'D'E'N'$ after a reflection in the line $x = 1$. What are coordinates of the image $J'A'Y'D'E'N'$?

   **$J'(1,2)$ $E'(-3,-1)$
   $A'(0,5)$ $N'(0,-1)$
   $Y'(-3,5)$
   $D'(-4,2)$**
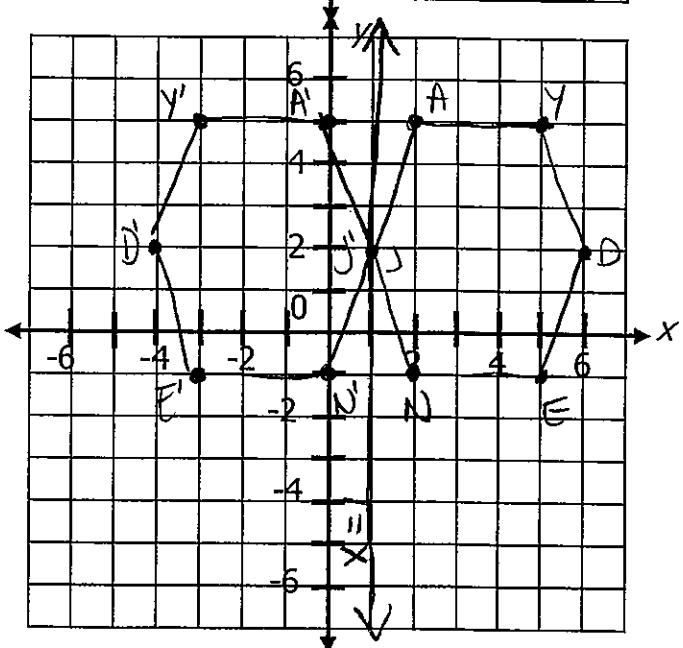
6.) Draw $\triangle TRI$ with coordinates $T(1,3)$, $R(4,7)$, and $I(7,0)$. Then draw $\triangle TRI$ after a reflection in the line $y = -x$. What are the new coordinates?

$T'(-3, -1)$

$R'(-7, -4)$

$I'(0, -7)$
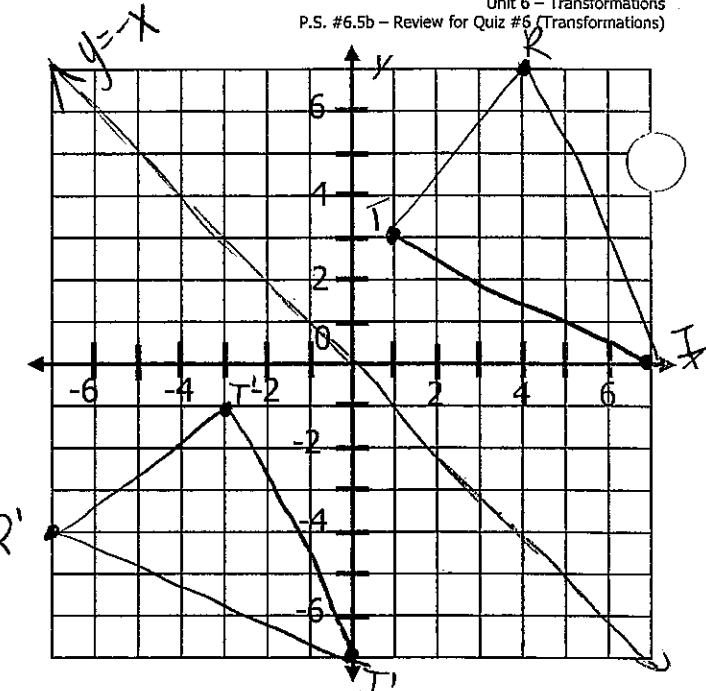
7.) In which transformation is size not preserved?
(A) dilation   (B) reflection   (C) rotation   (D) translation

gets bigger/smaller

8.) In which transformation is orientation not preserved?
(A) dilation   (B) reflection   (C) rotation   (D) translation

goes clockwise   ) goes counterclockwise
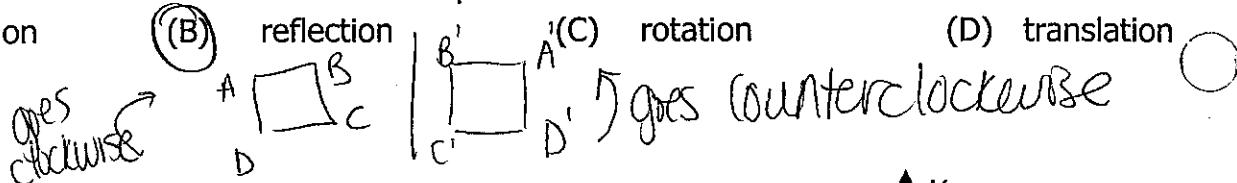
9.) Plot and label $\triangle PQR$ on the graph below given $P(2,6)$, $Q(-1,3)$, and $R(-4,6)$.

a.) Rotate $\triangle PQR$ 270° counterclockwise. State the coordinates.

$P'(6, -2)$ $Q'(3, 1)$ $R'(6, 4)$

b.) Reflect $\triangle P'Q'R'$ over the line $y = -1$. State the coordinates. (Yes, this one is tricky!)

$P''(6, 0)$

$Q''(3, -3)$

$R''(6, -6)$