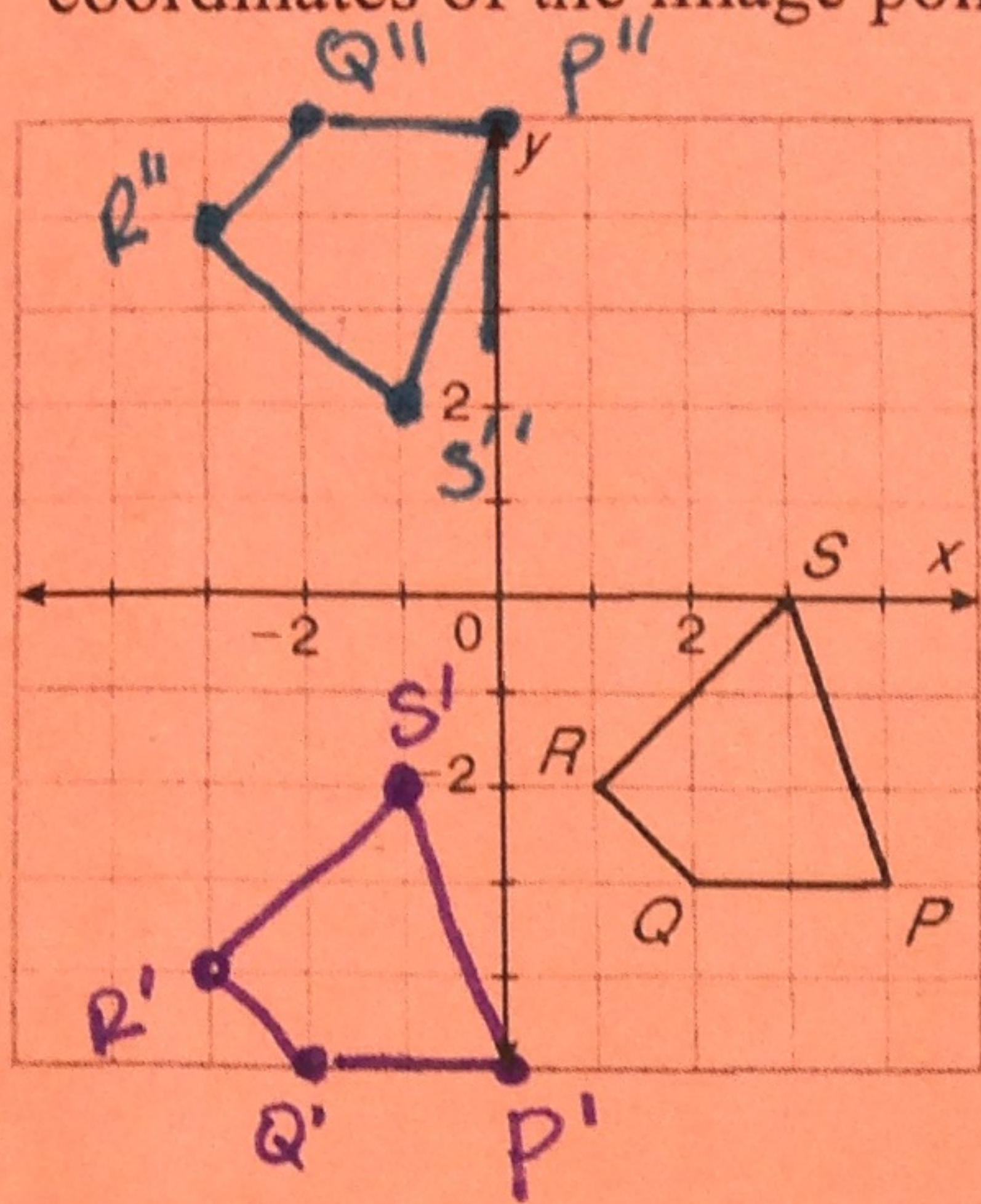
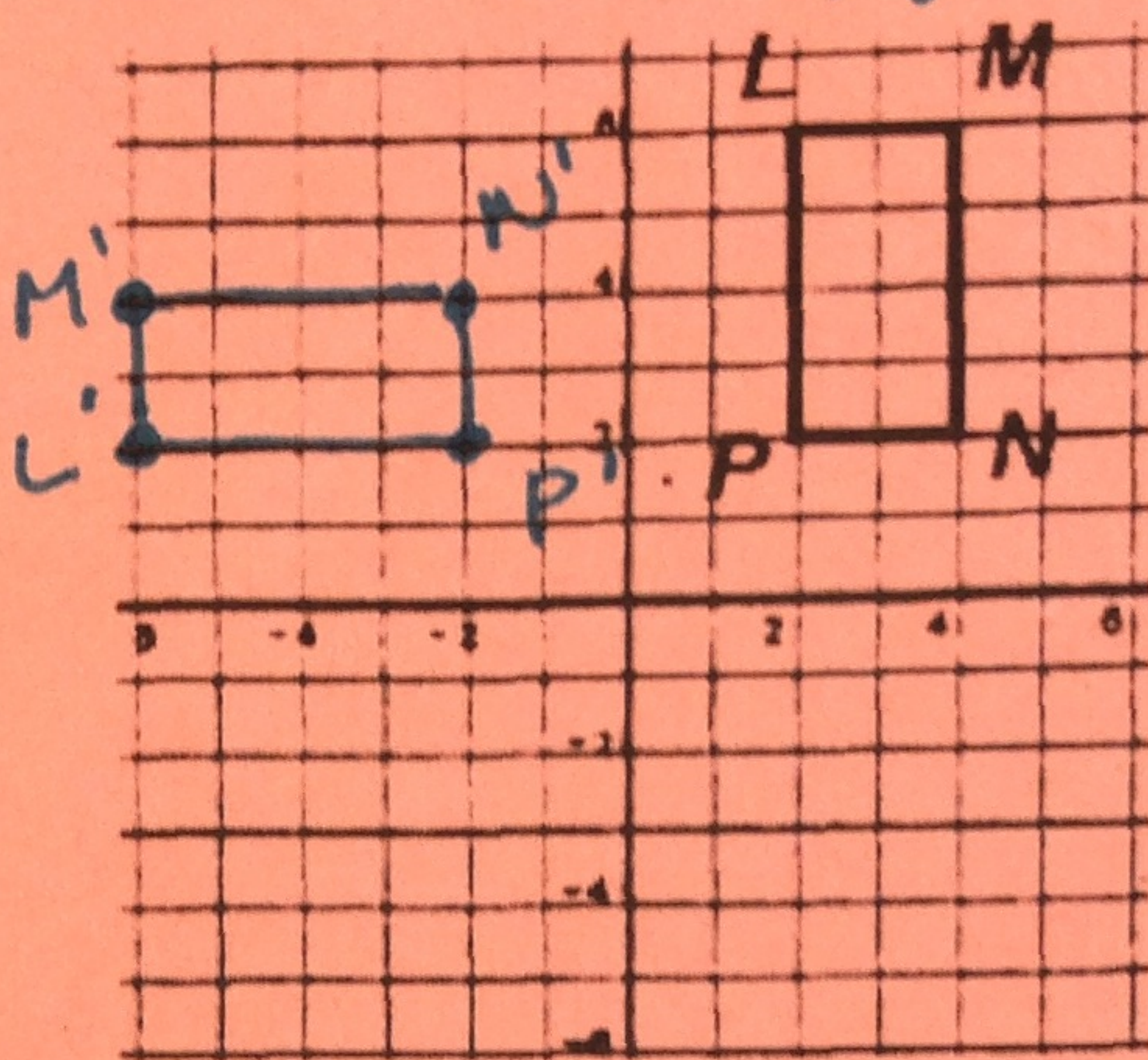


1. Quad. $PQRS$ is translated along the vector $\langle -4, -2 \rangle$ and reflected in the x -axis. List the coordinates of the image points.



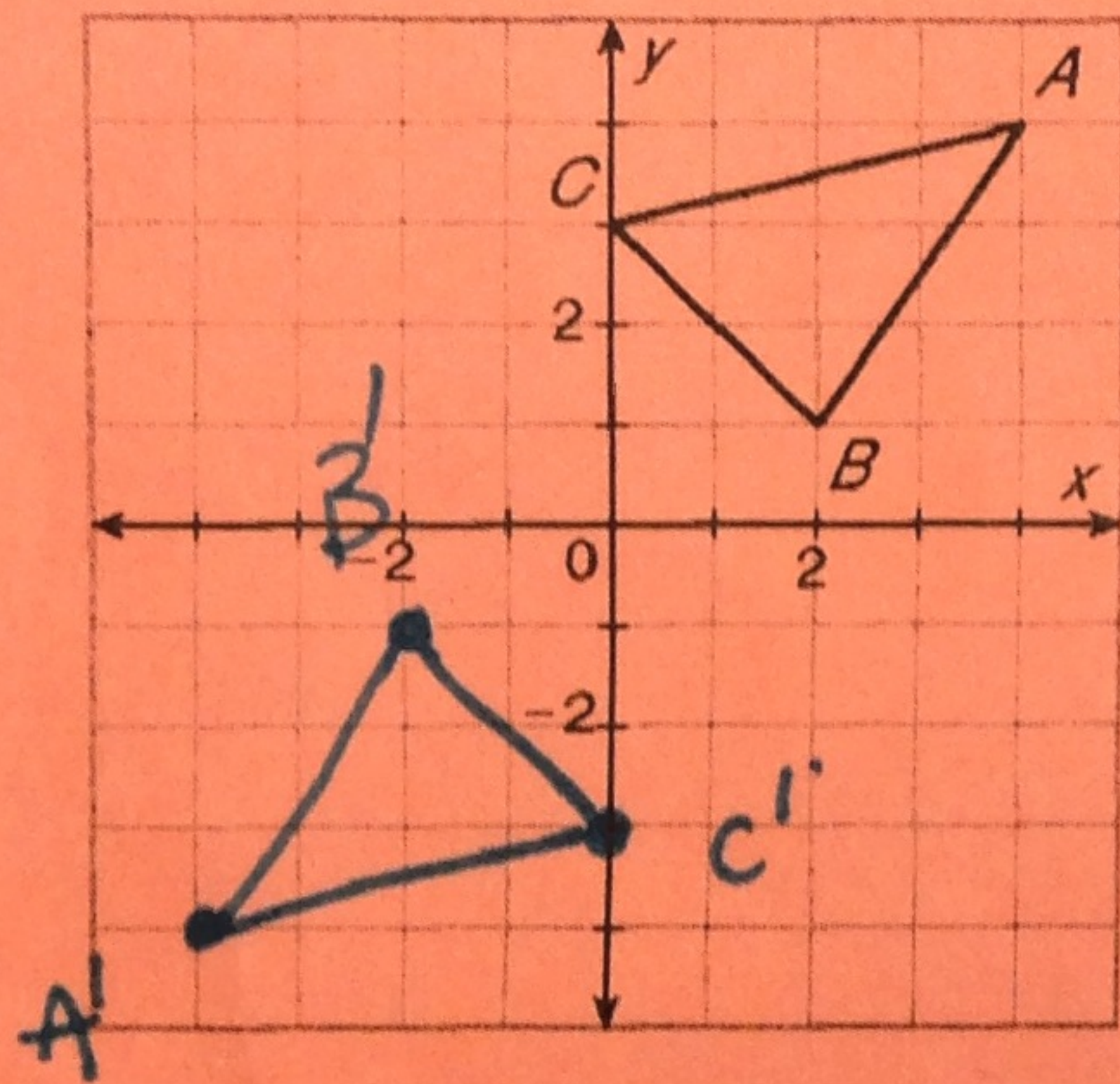
$S''(-1, 2)$
 $P''(0, 5)$
 $Q''(-2, 5)$
 $R''(-3, 4)$

4. Rectangle $LMNP$ is rotated 90° with center at the origin. List the coordinates of the image points.



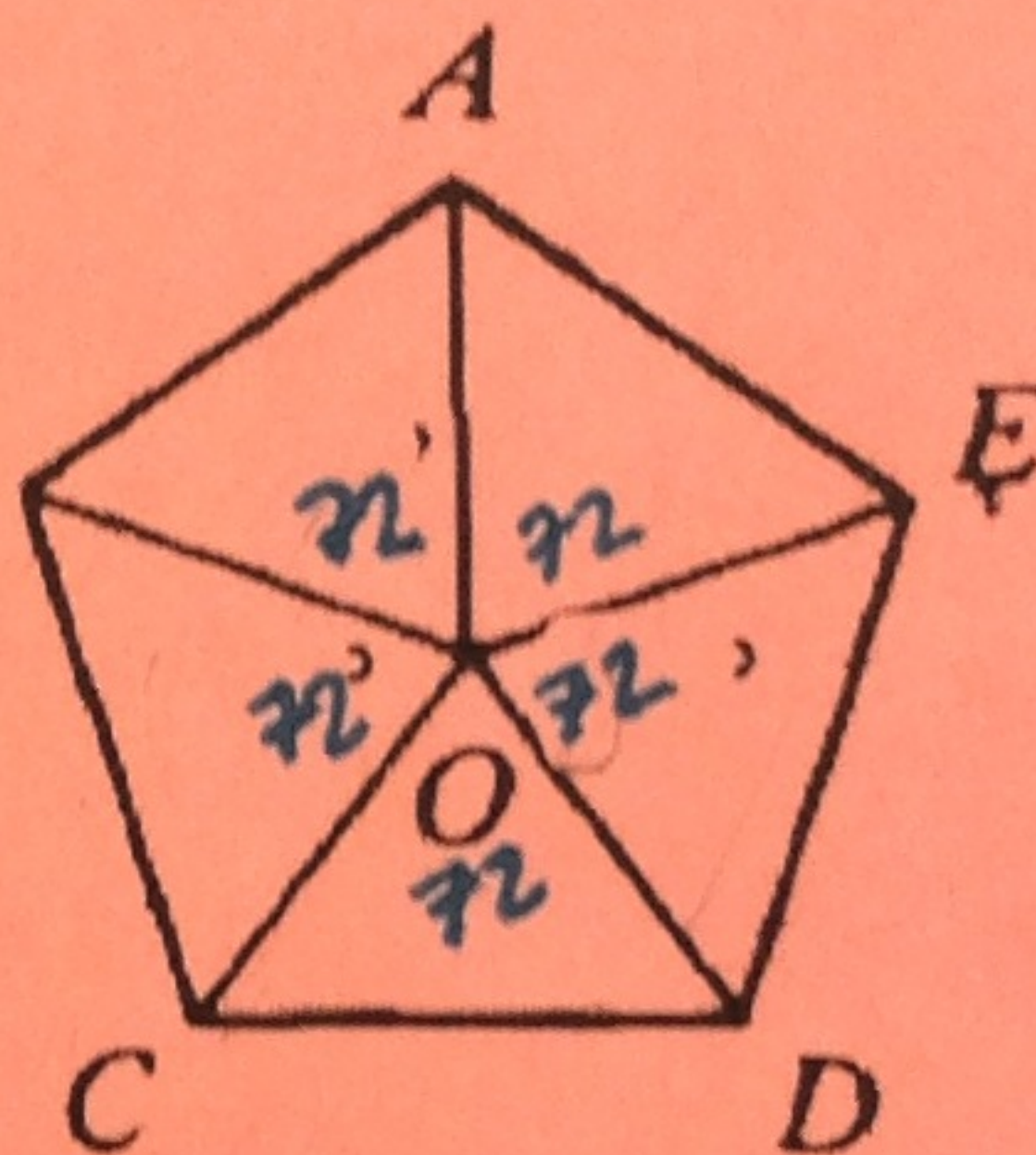
$(x, y) \rightarrow (-y, x)$
 $L(6, 6) \rightarrow (-6, 6)$
 $M(4, 6) \rightarrow (-6, 4)$
 $P(2, 2) \rightarrow (-2, 2)$
 $N(4, 2) \rightarrow (-2, 4)$

2. $\triangle ABC$ is rotated 180° about the origin. List the coordinates of the image points.



$A(4, 4) \rightarrow (-4, -4)$
 $B(2, 1) \rightarrow (-2, -1)$
 $C(0, 3) \rightarrow (0, -3)$

- 5.



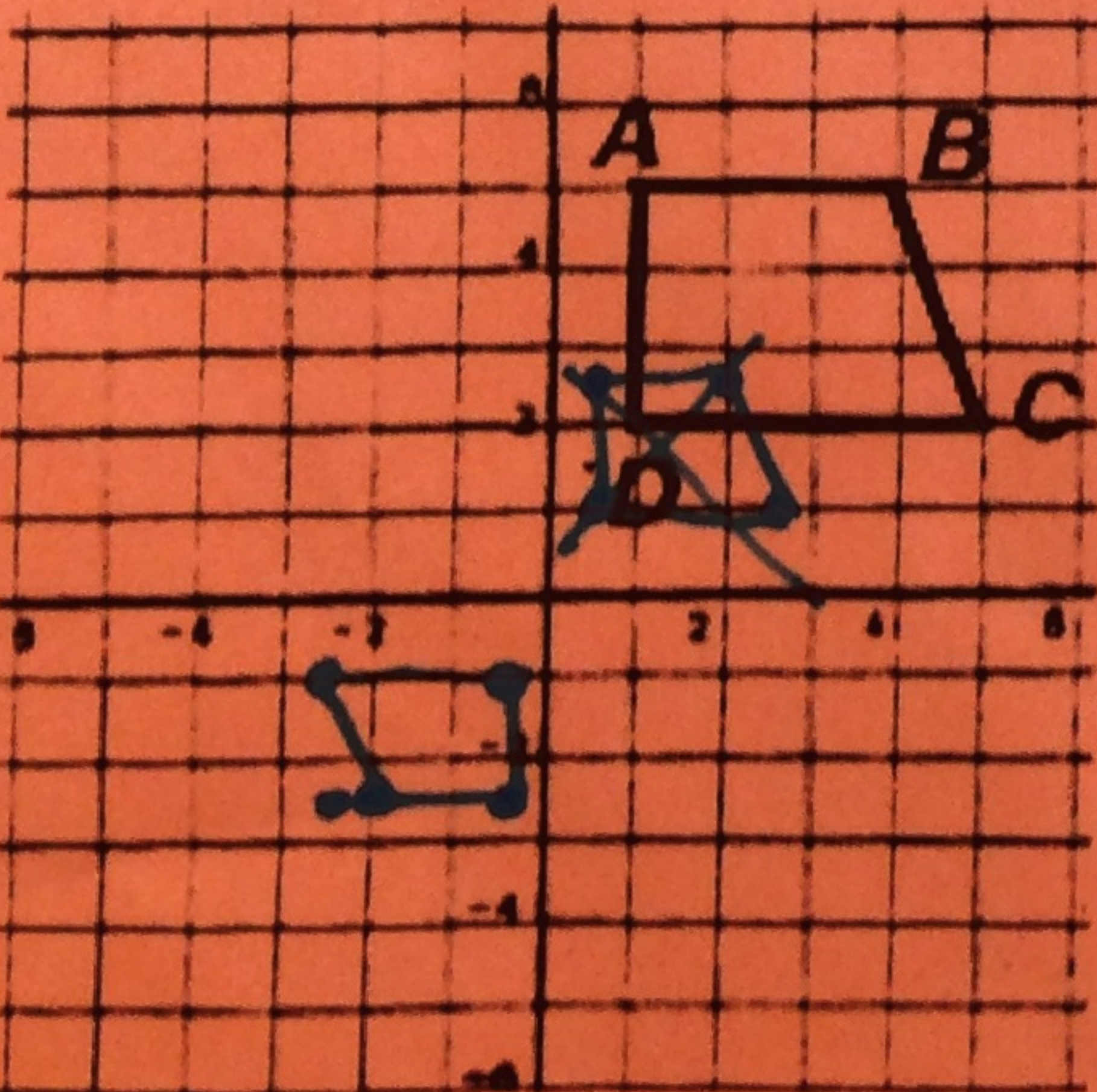
$\frac{360}{5} = 72^\circ$

O is the center of regular pentagon $ABCDE$.

A rotation of 216° about point O maps $E \rightarrow C$

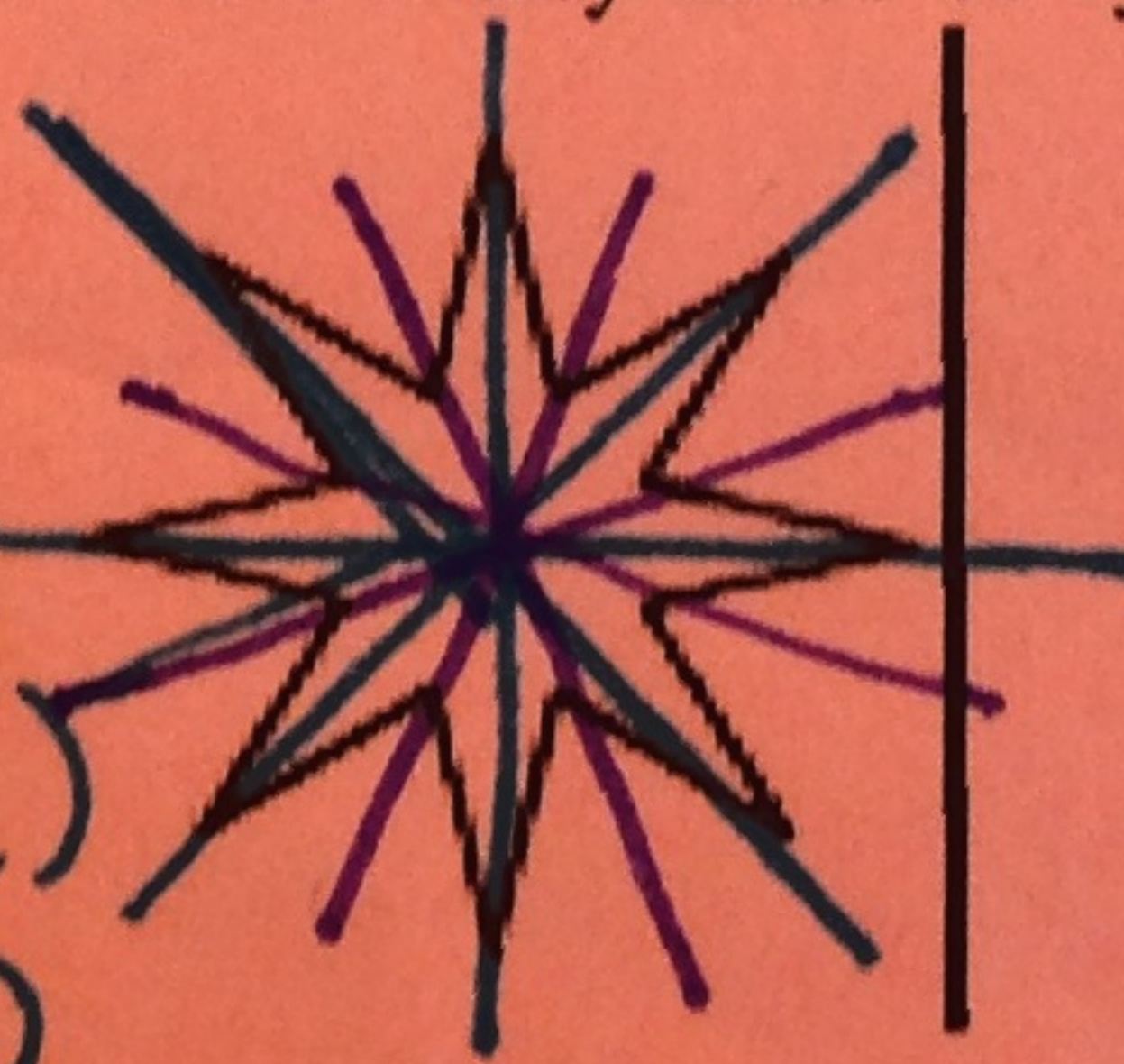
What angle of rotation maps $B \rightarrow D$? $72 \times 2 = 144^\circ$

3. Apply a dilation centered at the origin with scale factor $\frac{-1}{2}$ to trapezoid $ABCD$. List the coordinates of the image points.



$D(1, 2) \rightarrow (-\frac{1}{2}, -1)$
 $A(1, 5) \rightarrow (-\frac{1}{2}, -\frac{5}{2})$
 $B(4, 5) \rightarrow (-2, -\frac{5}{2})$
 $C(5, 2) \rightarrow (-\frac{5}{2}, -1)$

6. How many lines of symmetry?



8

Give the angle of rotational symmetry.



$\frac{360}{4} = 90^\circ$