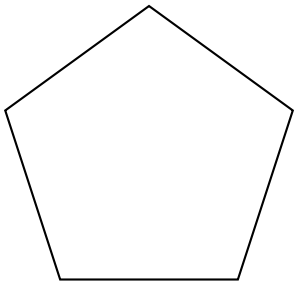
8.4 Classwork: "Onto" mappings, symmetry

1. What is the smallest non-zero angle of rotation about its center that would map the pentagon onto itself?



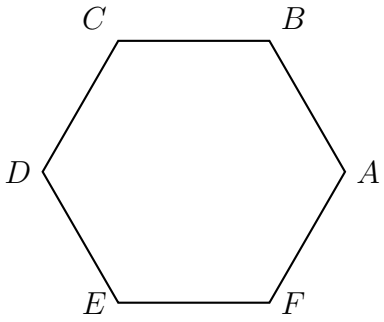
2. Circle YES or NO to indicate whether the given transformation maps the hexagon onto itself.

   (a) Yes No A reflection over $\overleftrightarrow{AD}$

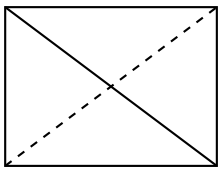
   (b) Yes No A rotation of 60° clockwise around the hexagon's center.

   (c) Yes No A reflection over a line through the midpoints of $\overline{BC}$, $\overline{EF}$.

   (d) Yes No A rotation of 120° counterclockwise around point D.



3. The figure shows a rectangle (not a square).



Which transformations carries the rectangle onto itself? Mark each True or False.

(a) A reflection over the solid diagonal True False

(b) A reflection over the dashed diagonal True False

(c) A clockwise rotation of 90° about the intersection of the diagonals True False

(d) A clockwise rotation of 180° about the intersection of the diagonals True False