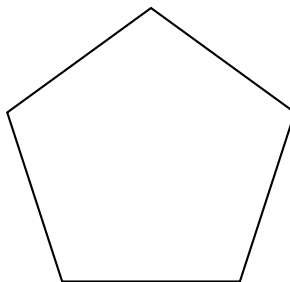


Name:

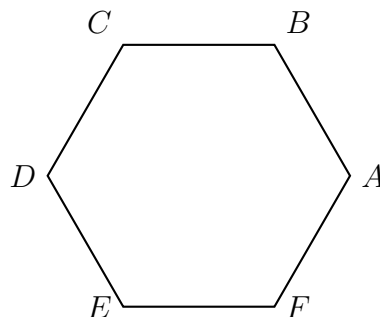
#### 8.4 Classwork: “Onto” mappings, symmetry

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

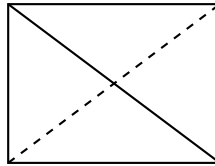


2. Circle YES or NO to indicate whether the given transformation maps the hexagon onto itself.

- (a) Yes    No    A reflection over  $\overleftrightarrow{AD}$
- (b) Yes    No    A rotation of  $60^\circ$  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  $120^\circ$  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 $90^\circ$ about the intersection of the diagonals  | True | False |
| (d) A clockwise rotation of $180^\circ$ about the intersection of the diagonals | True | False |