

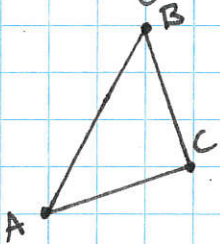
# 4.7 Transformations

**Transformation** - an operation that moves or changes a figure in some way to produce a new figure.

## Translation (slide)

- moves every point of the figure the same direction and the same distance.

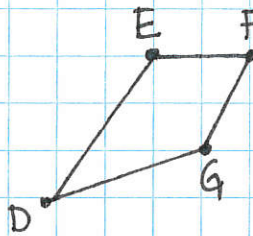
Ex: Move (translate)  $\triangle ABC$  right 5 and down 2.



## Reflection (flip)

- uses a line of reflection to create a mirror image of the original figure.

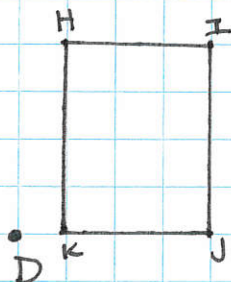
Ex: Reflect the figure across the dotted line.



## Rotation (turn)

- turns a figure about a fixed point, called the center of rotation

Ex: Rotate the rectangle  $90^\circ$  about point D.



## Congruence Transformation

- changes the position of a figure without changing its size or shape.

Ex: verify that the translation below is a congruence transformation.

