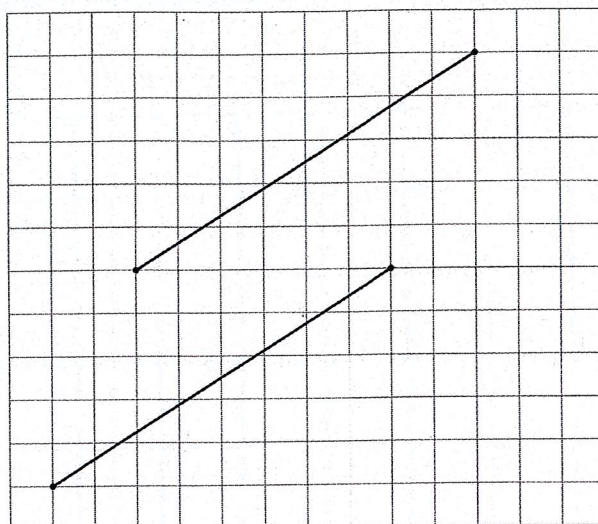


1. Rotate segment  $CD$  180 degrees around point  $D$ . Draw its image and label the image of  $C$  as  $A$ .
2. Rotate segment  $CD$  180 degrees around point  $E$ . Draw its image and label the image of  $C$  as  $B$  and the image of  $D$  as  $F$ .
3. Rotate segment  $CD$  180 degrees around its midpoint,  $G$ . What is the image of  $C$ ?
4. What happens when you rotate a segment 180 degrees around a point?

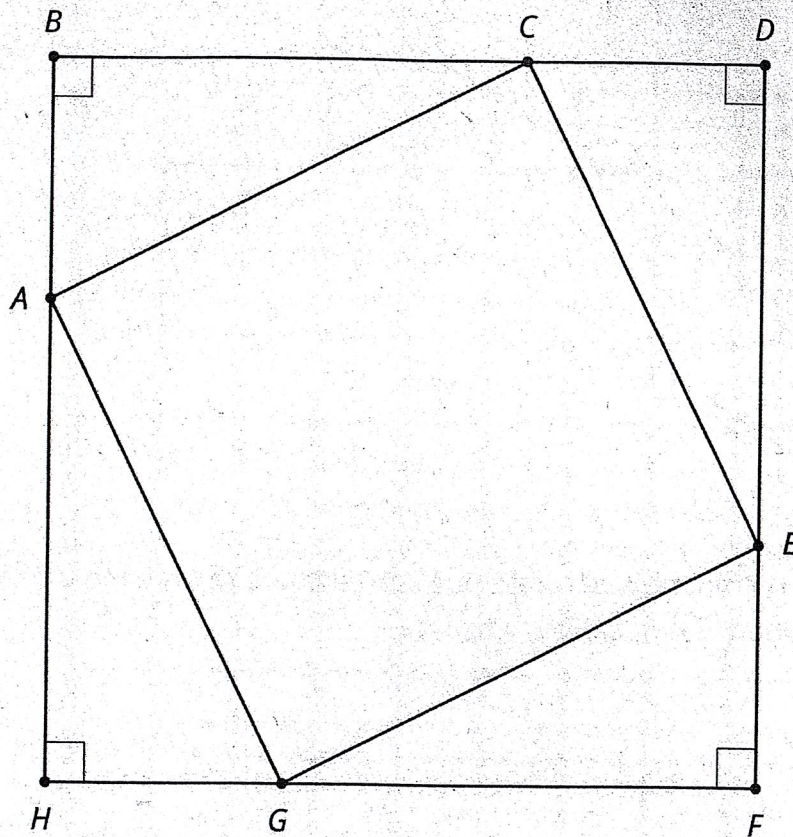
Are you ready for more?



Here are two line segments. Is it possible to rotate one line segment to the other? If so, find the center of such a rotation. If not, explain why not.

### 8.3: A Pattern of Four Triangles

m.openup.org/1/8-1-8-3



You can use rigid transformations of a figure to make patterns. Here is a diagram built with three different transformations of triangle  $ABC$ .

1. Describe a rigid transformation that takes triangle  $ABC$  to triangle  $CDE$ .
2. Describe a rigid transformation that takes triangle  $ABC$  to triangle  $EFG$ .
3. Describe a rigid transformation that takes triangle  $ABC$  to triangle  $GHA$ .
4. Do segments  $AC$ ,  $CE$ ,  $EG$ , and  $GA$  all have the same length? Explain your reasoning.