

Lesson 3.1.4 Resource Page

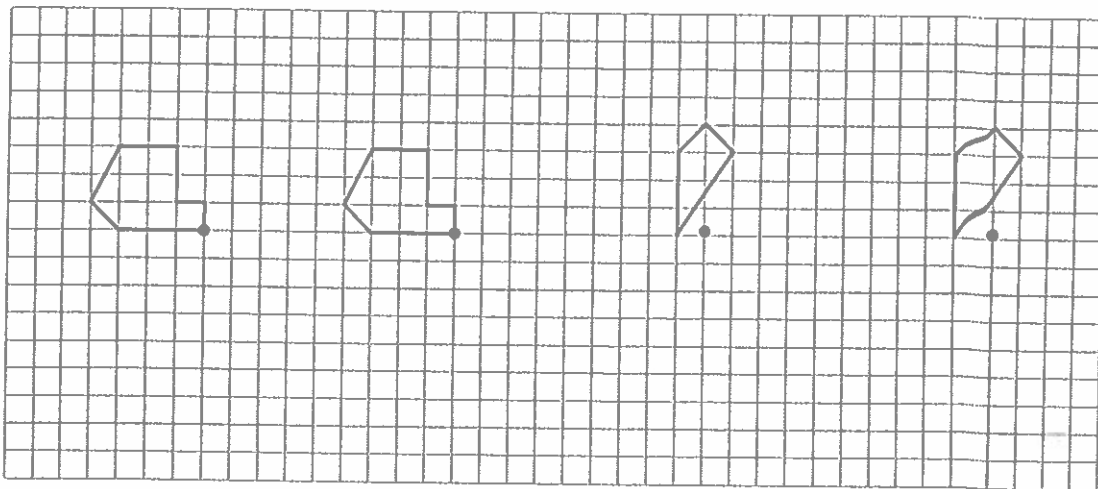
3-38. ROTATIONS ON A GRID

a.  $180^\circ$  U

b.  $180^\circ$  U

c.  $90^\circ$  U

d.  $90^\circ$  U

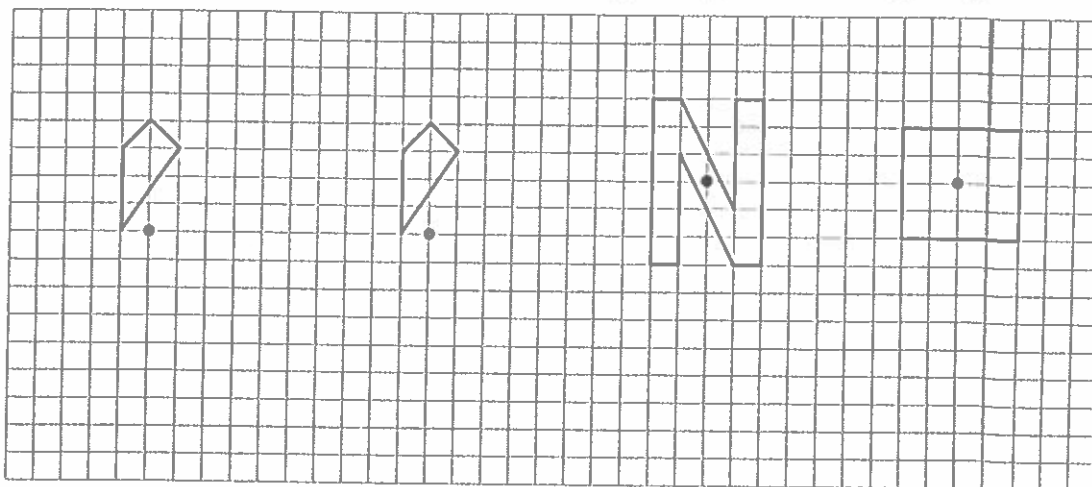


e.  $270^\circ$  U

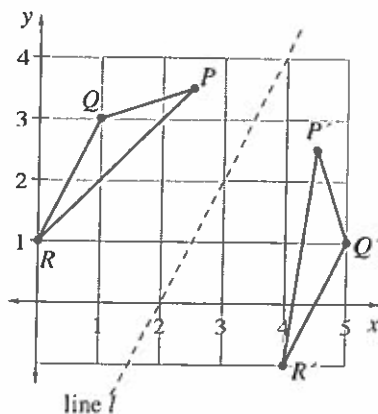
f.  $360^\circ$  U

g.  $180^\circ$

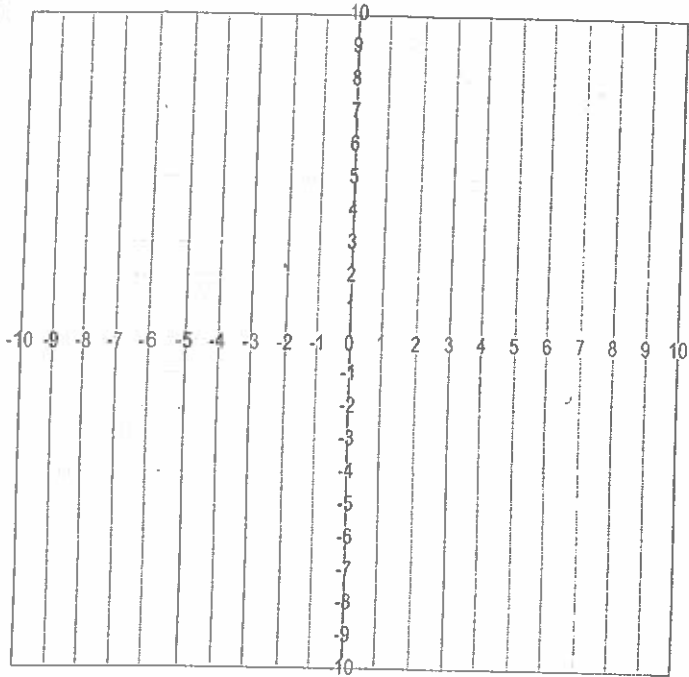
h.  $90^\circ$



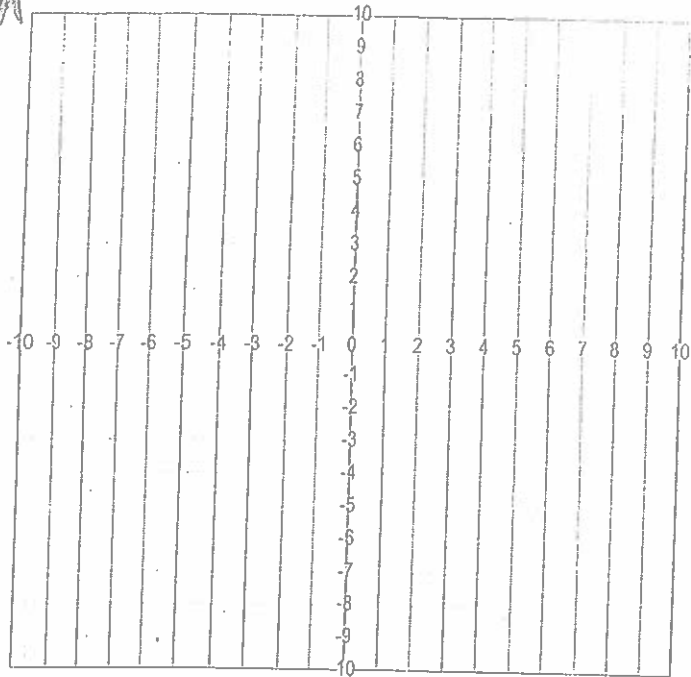
3-40.



39



3A



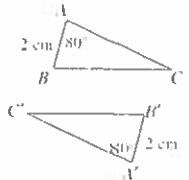
# METHODS AND MEANINGS

## Naming Parts of Shapes

### MATH NOTES

Part of geometry is the study of parts of shapes, such as points, line segments, and angles. To avoid confusion, standard notation is used to name these parts.

The point on a polygon where two line segments meet to form a "corner" is called a vertex. (The plural form of "vertex" is vertices.) A point is named using a single capital letter. For example, the vertices (corners) of the triangle at right are named  $A$ ,  $B$ , and  $C$ .



If a shape is transformed, the image shape is often named using prime notation. The image of point  $A$  is labeled  $A'$  (read as "A prime"), the image of  $B$  is labeled  $B'$  (read as "B prime"), etc. At right,  $\Delta A'B'C'$  is the image of  $\Delta ABC$ . We also say  $\Delta ABC$  is mapped to  $\Delta A'B'C'$ .

A line segment is a portion of a line between two points, and it is named by its endpoints and placing a bar above them. The side of a polygon is a line segment. For example, one side of the first triangle above is named  $\overline{AB}$ . When referring to the length of a segment, the bar is omitted. In  $\Delta ABC$  above,  $AB = 2 \text{ cm}$ .

A line, which differs from a segment in that it extends infinitely in either direction, is named by using two points on the line and placing a bar with arrows above them. For example, the line below is named  $\overleftrightarrow{DE}$ . When naming a segment or line, the order of the letters is unimportant. The line below could also be named  $\overleftrightarrow{ED}$ .



An angle can be named by putting an angle symbol in front of the name of the angle's vertex. For example, the angle measuring  $80^\circ$  in  $\Delta ABC$  above is named  $\angle A$ . Sometimes using a single letter makes it unclear which angle is being referenced. For example, in the diagram at right, it is unclear which angle is referred to by  $\angle G$ . When this happens, the angle is named with three letters. For example, the angle measuring  $10^\circ$  is called  $\angle HGI$  or  $\angle IGH$ . Note that the name of the vertex must be the second letter in the name; the order of the other two letters is unimportant.



To refer to an angle's measure, an  $m$  is placed in front of the angle's name. For example,  $m\angle HGI = 10^\circ$  means "the measure of  $\angle HGI$  is  $10^\circ$ ".

13D

