***CONSTRUCTION #7**: Construct a line parallel to a given line through a given point.*
Given line l and point P, not on l.
Construct a line through P, parallel to l.

1. Draw a line through P, so that it intersects line l. Label this point A. [figure 1]

2. Open the compass to a comfortable distance, set the compass at A, and make an arc so that it intersects $\overleftrightarrow{AP}$ (label this point B) and line l (label this point C).
   Using the same compass opening, make an identical arc with the compass set at P, so that the arc intersects $\overleftrightarrow{AP}$. Label this point Q. [figure 2]

3. Set the compass at B, and make an arc so that it intersects line l at point C.
   Using the same compass opening, make an identical arc with the compass set at Q so that it intersects the arc you made in step 3. Label this point R. [figure 3]

4. Draw $\overleftrightarrow{PR}$. Note: $\overleftrightarrow{PR} \parallel \overleftrightarrow{AC}$. Why? [figure 4]

Figure 1

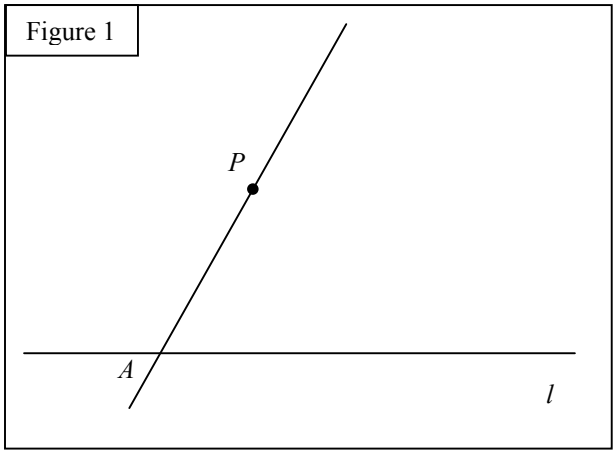

Figure 2

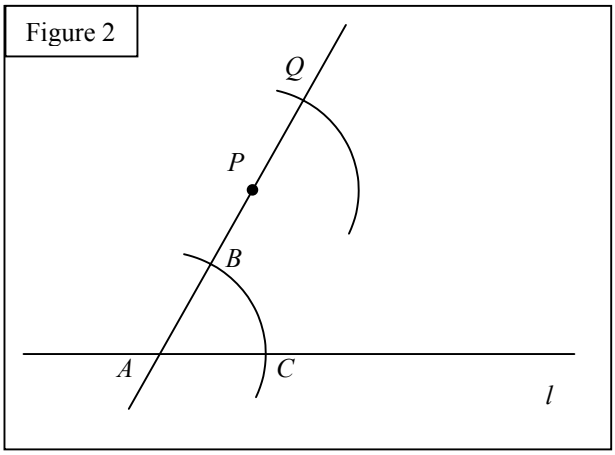

Figure 3

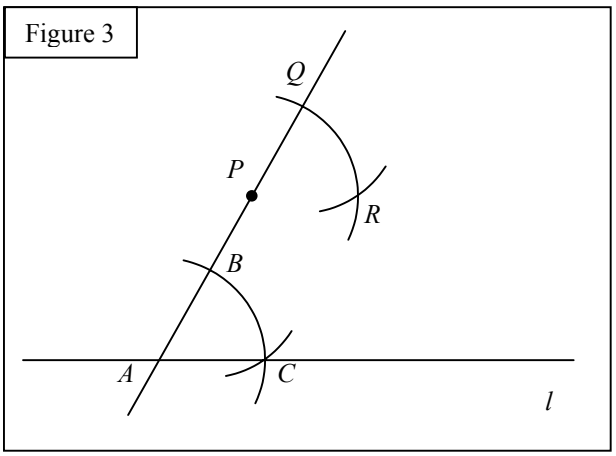

Figure 4