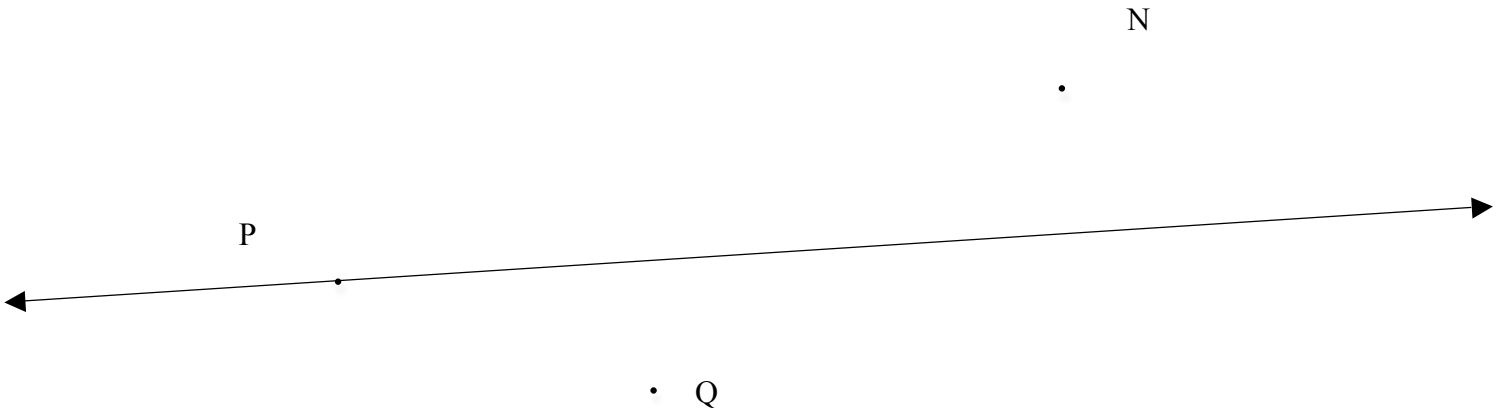
Geometry – Constructions **Assignment #11**

1. Given line segment AB with a length of 2: On the given ray, construct a segment with length of 4 and call it $\overline{CD}$; construct a segment with length of 3 and call it $\overline{EF}$.

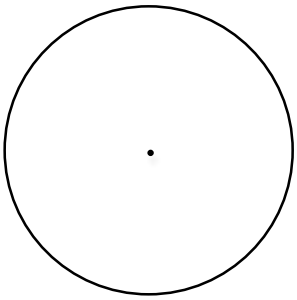
2. Construct the perpendicular bisectors of $\overline{AB}$, $\overline{CD}$, and $\overline{EF}$.

3. Construct three lines: each must be perpendicular to line *l* and pass through one of the given points *P*, *Q*, *R*.



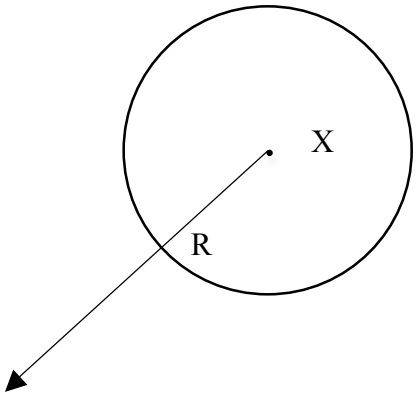
4. Construct two lines: each must be parallel to line *l*, one passing through Point *Q* and the other passing through Point *R*.

5. Construct any 3 tangents lines for the circle:

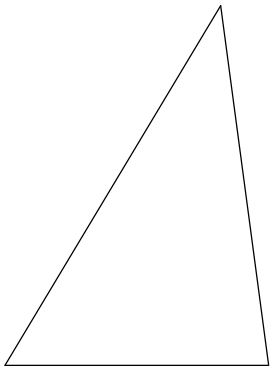


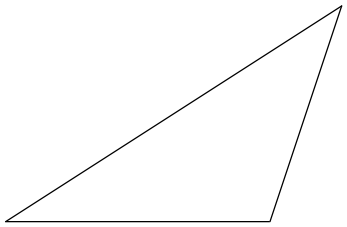
6. Construct an extended radius that is perpendicular to $\overrightarrow{XR}$ and name it $\overrightarrow{XK}$.

7. Construct two tangent lines for Circle X, one that passes through Point *R* and the other that passes through Point *K*.



8. Construct the perpendicular bisectors of the two triangles:





<u>Extended Practice:</u>

9. Construct the each triangle described:
   a. A triangle with side lengths 3, 4, 6.
   b. A triangle with side lengths 5, 5, 6.
   c. A triangle with side lengths 4 and 6 and with an included angle that measures 30°.
   d. A triangle with angles that measure 60° and 45° and with an included side length 5.

13. Use any of the triangles above to create its three angle bisectors.