1. Construct segment AB, BC, and CA.

2. Construct the midpoint of AB.  This is point D.

3. Construct the midpoint of BC.  This is point E.

4. Construct the midpoint of CA.  This is point F.

5. Construct the perpendicular bisector of AB.  Notice it intersects at point D.

6. Construct the perpendicular bisector of BC.  Notice it intersects at point E.

7. Construct the perpendicular bisector of CA.  Notice it intersects at point F.

8. Create a point at the intersection of the three perpendicular bisectors.  This is point G.

9. Calculate the distance between AG, BG, and CG.  Notice you get the same value.

**Justification:**
Point G is known as the **<u>circumcenter</u>**.  This means it is the center of the circle that will go through points A, B, and C.

Remember in a circle, all radii have the same value.  Therefore AG, BG, and CG all represent radii in the circle that contains the points A, B, and C.