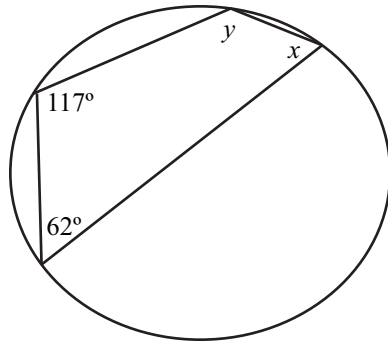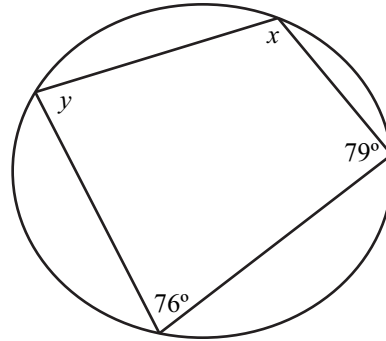# Functions Worksheet 3

Figure 1

Figure 2

1. How would you construct a circle that circumscribes a given triangle?

2. Why is the center of the circle that circumscribes a triangle at the intersection of the perpendicular bisectors?

3. Which theorem is needed to prove that the opposite angles in a cyclic quadrilateral are supplementary?

   Refer to the Figure 1 for questions 4 and 5.

4. Determine the measure of $\angle x$.

5. Determine the measure of $\angle y$.

Refer to the Figure 1 for questions 4 and 5.

6. Determine the measure of $\angle x$.

7. Determine the measure of $\angle y$.

8. How would you construct the inscribed circle of a triangle?

9. Describe the relationship among the circumcenter, orthocenter, and centroid of a triangle.

10. They are collinear. They all lie on the Euler line.