

# Geometry

Date: \_\_\_\_\_ Start Time: \_\_\_\_\_ End Time: \_\_\_\_\_  
INDEX: \_\_\_\_\_ Arcs, Central Angles and Chords Score: \_\_\_\_/37

## 1-7. Vocabulary

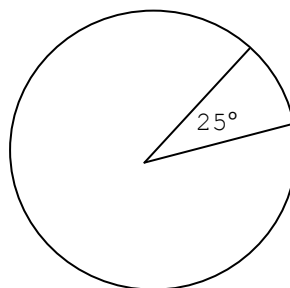
1. An angle with vertex at the center of the circle is a \_\_\_\_\_.
2. An unbroken segment of the circle is an \_\_\_\_\_.
3. The interior of a central angle forms the \_\_\_\_\_.
4. The exterior of the central angle forms the \_\_\_\_\_.
5. When the end points of an arc are the same endpoints of a diameter, then the two arcs are called \_\_\_\_\_.
6. Arcs that share exactly one point are called \_\_\_\_\_.
7. Arcs with the same central angle in congruent circles are \_\_\_\_\_.

## 8-21. True or False?

8. A minor arc is  $\leq 180^\circ$ .
9. A major arc is  $\leq 360^\circ$ .
10. A major arc is  $\leq 180^\circ$ .
11. A central angle is  $\leq 360^\circ$ .
12. A central angle is  $\geq 0^\circ$ .
13. A central angle is  $\geq 180^\circ$ .
14. The major arc is given by the measure of the central angle.
15. To find the total measure of two adjacent angles, add the angle measures.
16. Adjacent angles share more than one point.
17. Two arcs are congruent if and only if the circles have the same radius.

## 18-21 Use figure 6.6.

18. The measure of the central angle is  $25^\circ$ .
19. The measure of the minor arc is  $65^\circ$ .
20. The measure of the major arc is  $335^\circ$ .
21. The measure of the radius is  $25^\circ$ .



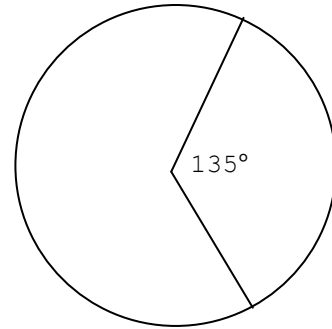
# Geometry

## 22-34. Short Answer

### 22-27 Use figure 6.7.

22. What is the measure of the central angle?
23. What is the measure of the major arc?
24. What is the measure of the minor arc?
25. To create a diameter using one radius in the figure, draw another radius to create an adjacent angle. What is the measure of the new angle?
26. What is the measure of the minor arc related to the new angle?
27. Two supplementary adjacent central angles form a semicircle. What are the supplementary angles in exercise 25?

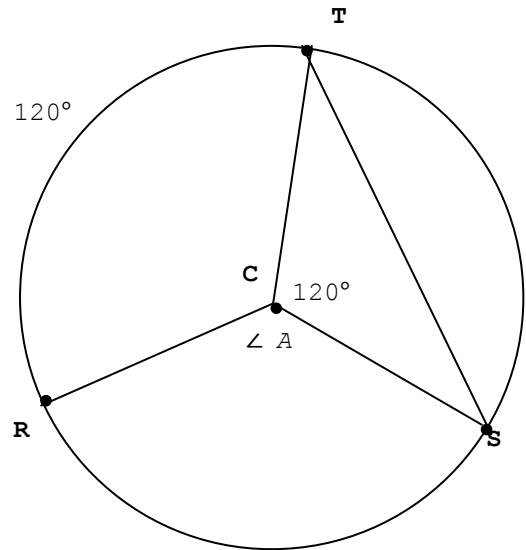
Figure 6.7



### 28-34. Use Figure 6.8.

28. What can you say about  $\angle A$ ?
29. What type of triangle is  $\triangle SCT$ ?
30. Using a ruler, draw a line connecting points **R** and **S**. What can you say about the resulting triangle?
31. Can you find congruent triangles? How many?
32. What is the measure of the minor arc related to  $\angle A$ ?
33. What is the measure of the major arc related to  $\angle A$ ?
34. The major arc in exercise 32 is also the sum of two adjacent arcs. Name the central angles of these arcs.

Figure 6.8



### 35-37. Justify the following statements.

35. If two angles are congruent, then the supplementary angles of each are also congruent.
36. The major arc related to a central angle is always greater than or equal to  $180^\circ$ .
37. Congruent central angles have congruent minor arcs.