

Name _____ Date _____ Section _____

4-8 The Big Circle Puzzle

You are given the following information:

\overline{DF} and \overline{CA} are diameters of Circle O.

$$m\widehat{AB} = 10$$

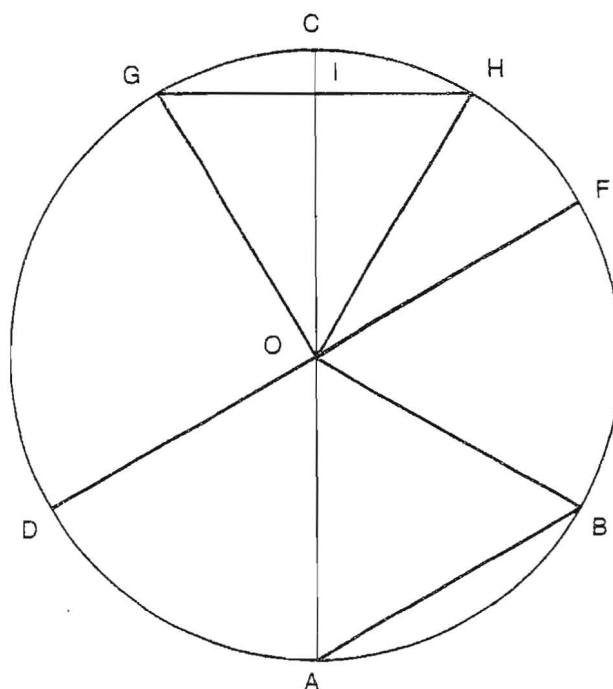
$$m\widehat{HI} = 6$$

$$m\angle HIO = 90$$

$$m\widehat{OF} = 10$$

$$\angle DOA \cong \angle BOF$$

Find the measure of each segment, arc, and angle in the diagram below. Use tick marks to show congruent segments, arcs, and angles. Write the measure of each segment, arc, and angle as you find it. Check your work as you proceed. Do not make any assumptions. Record your answers below.



O is the center of the circle

- | | | |
|------------------------------|-----------------------------|-----------------------------|
| 1. $m\widehat{CA} =$ _____ | 2. $m\widehat{OB} =$ _____ | 3. $m\widehat{OA} =$ _____ |
| 4. $m\widehat{AB} =$ _____ | 5. $m\angle DOA =$ _____ | 6. $m\angle FOB =$ _____ |
| 7. $m\widehat{DB} =$ _____ | 8. $m\widehat{ADB} =$ _____ | 9. $m\widehat{GI} =$ _____ |
| 10. $m\widehat{GH} =$ _____ | 11. $m\widehat{OI} =$ _____ | 12. $m\widehat{IC} =$ _____ |
| 13. $m\widehat{CD} =$ _____ | 14. $m\widehat{CF} =$ _____ | 15. $m\angle GIC =$ _____ |
| 16. $m\widehat{FDB} =$ _____ | 17. $m\angle COF =$ _____ | 18. $m\angle COD =$ _____ |