**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

***\*\*Do all work on your own paper and draw diagrams\*\****

1. $AB=BC; ∠ABC=36°$; Find $∠BOC$. 2. Find *x.*

x°

78°



3. Chords $\overbar{AB}, \overbar{BC}, and \overbar{CA}$ are equidistant from the center of the circle. Find the measure of major arc ACB.

**For #4– 5: Use the diagram shown where AC = 6, AB = 12, CB = 13.**

4. Find the length of the radius of $⨀B$.

5. Which circle is the largest?

**For #6 – 7, use the diagram shown.** $m\hat{MAT}=190°, m∠T=110°$

190°

110°

A

6. Find the measure of $∠H. $

7. Find the measure of $∠M.$

**Use the diagram to the right for 8-9.**

C

8. $\overbar{PA} and \overbar{PB} $are tangent to circle O at

 A and B. PA = 40 and AO = 9. Find PB.

9. Find PC.

10. Find the diameter of a circle if an arc of the circle has a measure of 60 degrees and a length of 20 inches. Exact answers only (no decimals.)

C

D

11. If $\overbar{AB}$ is a diameter, $m∠CDB=\left(5x-10\right)^{o},$ and *m*$\hat{ABC}=220^{o},$ then solve for *x*.



12. Circle O is inscribed in $∆PQR$.

 PQ = 9, QR = 12, and PR = 14.

 Find PT.

13. Find the length of a chord that is 6 cm from the center of a circle with a radius of 10 cm.

**For #14 – 16, refer to the diagram and the information given.**

*Given:* $⨀O, m\hat{AB}=48°$

14. Find $m∠AOB.$ 15. Find $m∠A.$

16. Find $m\hat{ACB}$.

17. A circle has a radius of 7 cm. Find the length of an arc with a measure of 80 degrees. Round your answer to the nearest hundredth of a cm.

**Answers:**

1) $144^{o}$ 2) $x=156^{o} $ 3) $240^{o}$ 4) 9.5 5) Circle B

6) $95^{o}$ 7) $70^{o}$ 8) 40 9) 32 10) $\frac{120}{π} in$ 11) 10 12) 5.5

13) 16 cm 14) $48^{o}$ 15) $66^{o}$ 16) $312^{o}$ 17) 9.77 cm