F

L

J

А

B

E

D

G

Η

I

Μ

<u>Unit 10 – Circles – Day 1 – Circle Basics</u>

For 1 – 4, write in the correct vocabulary word.

1. The ______ is a segment between the center of the circle, and a point on the circle.

2. A segment whose endpoints are on the circle is a ______. The longest chord is the ______.

3. A radius is ______ of the diameter.

4. A diameter divides a circle in two _____ parts.

Use the diagram for 5 – 9, name all of the following.

5. Radii **6.** Centers

- 7. Diameters 8. Chords
- **9.** Name of each Circle

Use the information to find the area and circumference of each circle. Please leave all answers in terms of π .



13. Find the radius of a circle that has a diameter of 15 inches.

14. Find the diameter of a circle with an area of $36\pi in^2$.

15. What is the area of a circular pool that has a circumference of 100π feet ?

16. The diameter of a circular pizza pan is 18 *inches*. Two-thirds of the pizza is eaten by your friends. What is the approximate area of the pizza pan that is covered by the remaining pizza?

Unit 10 - Circles - Day 2 - Central Angles and Arc Length



 \overline{AC} and \overline{EB} are diameters of $\odot R$. Identify each arc as a *major arc, minor arc, or semicircle* of the circle. Then find its measure.



$1. \ m \widehat{EA}$	2. $m\widehat{CB}$
3. $m\widehat{DC}$	4. <i>mDEB</i>
5. $m\widehat{AB}$	6. $m\widehat{CDA}$

 \overline{FH} and \overline{EG} are diameters of $\odot P$. Find each measure.

7. $m\widehat{EF}$	8. $m\widehat{DE}$
9. $m\widehat{FG}$	10. <i>mDHG</i>
11. $m \widehat{DFG}$	12. $m\widehat{DGE}$



Use $\odot D$ to find the length of each arc. Round to the nearest hundredth.

15. \widehat{LM} if the radius is 5 inches

16. \widehat{MN} if the diameter is 3 yards



17. \widehat{KL} if JD = 7 centimeters

18. \widehat{NJK} if NL = 12 feet

<u>Unit 10 – Circles – Day 3 – Inscribed Angles</u>

Find the following measures.







4. $m\widehat{JK}$



5. *m*∠*BAC*





3. $m \angle R$



Find the measure of the following

7. *x* =

- **8.** *y* =
- **9.** *m*∠*N* =





Find the measure of the following

11. *m*∠*A* =

- **12.** *m*∠*B* =
- **13.** *m*∠*C* =

Find the measure of the following

14. *x* =

- **15.** *m*∠*J* =
- LH =

17. What is the <u>length</u> of the minor arc AB in the circle with a radius of $\overline{45 \ cm}$?



C





<u>Unit 10 – Circles – Day 4 – Arcs and Chords</u>

Find the following.









7. If VW = 20, & YZ = 5x, find x



8. *x*



The radius of circle Y is 34, AB = 60, and $m\widehat{AC} = 71$. Find each of the following, round to the nearest hundredth if necessary.

9. mBC

10. mÂB
11. AD
13. DC
12. YD
14. AB



Unit 10 - Circles - Day 1 - 4 Review

Matching: Use circle C to complete each statement. Some answers may be used more than once.

Word Bank: Chord, Diameter, Radius, Minor Arc, Major Arc, Semicircle, Central Angle, inscribed angle.



Use circle C to answer the questions.

 $\overline{\text{DE}}$ and $\overline{\text{FG}}$ are diameters, $\overline{\text{DE}} \perp \overline{\text{FG}}$, $m \angle \text{FCH} = 45$, and the radius of circle C is 4 inches. Length

mFH = _____ 10. *m*∠DCH = _____ 11. EGH = **12.** mEH = _____ 13. **14.** FG = _____ 15. FC = _____ E _____ EF ≅ _____ **16.** EF = 17. EH ≅ _____ **18.** EF ≅ _____ 19. C G F HD

20. Circle H has a radius of 20 units, and circle K has a radius of 16 units. If JI = 6, find HI.



21. Z is the center of two circles with radii \overline{ZS} and \overline{ZB} . If $m \angle TZS = 53$ and m arc(AC) = 108, find m arc(ADB).



- Use circle V to answer the questions. $m \angle UVR = 70$, VR = 8, and US = 12. Round to the nearest tenth, if necessary.
- 23. RS = _____
- 24. VS =
- **25.** *m*∠UVS =_____
- **26.** *m*TS =



22. In circle R, $m \angle TRU = 46$, $m \angle SRV = 58$, and \overline{ST} is a diameter. Find $m \angle SRU$.



Use Circle Q to answer the questions. Round answers to the nearest tenth, if necessary.

- **27.** UV ≅ _____.
- 28. Suppose UV = 5x 8 and RT = 2x + 19. Find the radius



- 29) C=_____ A=_____ **29.** A circle has a diameter of 11 feet. Find the circumference and the area. 30) r=_____ **30.** Find the radius of the circle with a circumference of 68 kilometers.
- **31.** Find the area of a circle with circumference of 40π millimeters.
- 32. In a circle with radius of 16 kilometers, find the arc length if the central angle is 100° .
- **33.** Find the circumference of the circle.

34. In the diagram below $\overline{XY} = 10x - 10$, $\overline{XZ} = 6x + 10$, and 5. Find *XZ*.





32) Arc Length_____

31) A=_____

33) C=_____

35. What is the length of the minor arc AB in the circle with a radius of 20 cm?



36. The diameter of a circular pizza pan is 24 *inches*. One-third of the pizza is eaten by your friends. What is the approximate area of the pizza pan that is covered by the remaining pizza?



38. Find the value of y



<u>Unit 10 – Circles – Day 5 – Tangents</u>

Determine whether each segment is tangent to the given circle and justify your answer.



Find the of the following







7. FG





Т



9. *x*





<u>Unit 10 – Circles – Day 6 – Angle Relationships in a Circle</u>

Find the measure of the following. Assume that all segments that appear to be tangent are tangent.





5. m∠5





Find the measure of the following. Assume that all segments that appear to be tangent are tangent.

1. $m \angle 1$











