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## Unit 10 - Circles - Day 1 - Circle Basics

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

1. The $\qquad$ 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 $\qquad$ . The longest chord is the $\qquad$ .
3. A radius is $\qquad$ of the diameter.
4. A diameter divides a circle in two $\qquad$ 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 $\pi$.


Area: $\qquad$

Circumference: $\qquad$ -
11.


Area: $\qquad$
$\qquad$
12.


Area: $\qquad$

Circumference: $\qquad$
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 $36 \pi \mathrm{in}^{2}$.
15. What is the area of a circular pool that has a circumference of $100 \pi$ 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

## Find the following:

1. $m \widehat{A B}$

2. $m \angle E H F$

3. $m \widehat{Q R S}$

4. $m \widehat{C Y D}$
$Z B$ is a diameter

$\overline{A C}$ and $\overline{E B}$ are diameters of $\odot$ R. Identify each arc as a major arc, minor arc, or semicircle of the circle. Then find its measure.
5. $m \overparen{E A}$
6. $m \overparen{C B}$

7. $m \overparen{D C}$
8. $m \overparen{D E B}$
9. $m \overparen{A B}$
10. $m \overparen{\mathrm{CDA}}$
$\overline{F H}$ and $\overline{E G}$ are diameters of $\odot P$. Find each measure.
11. $m \overparen{E F}$
12. $m \overparen{D E}$
13. $m \overparen{F G}$
14. $m \overparen{D H G}$

15. $m \overparen{D F G}$
16. $m \overparen{D G E}$

Use $\odot D$ to find the length of each arc. Round to the nearest hundredth.
15. $\overparen{L M}$ if the radius is 5 inches
17. $\overparen{K L}$ if $J D=7$ centimeters
16. $\overparen{M N}$ if the diameter is 3 yards
18. $\overparen{N J K}$ if $N L=12$ feet

## Unit 10 - Circles - Day 3 - Inscribed Angles

Find the following measures.

1. $m \overparen{X Y}$

2. $m \angle E$

3. $m \angle R$

4. $m \overparen{J K}$

5. $m \angle B A C$

6. $m \angle V W X$


## Find the measure of the following

7. $x=$
8. $y=$
9. $m \angle N=$
10. $m \angle L=$


## Find the measure of the following

11. $m \angle A=$
12. $m \angle B=$
13. $m \angle C=$


## Find the measure of the following

14. $x=$
15. $m \angle J=$
16. $m \angle H=$

17. What is the length of the minor arc $\overparen{A B}$ in the circle with a radius of 45 cm ?


## Unit 10 - Circles - Day 4 - Arcs and Chords

Find the following.

1. $x$

2. $x$

3. $x$

4. $m \widehat{S T}$

5. $m \widehat{A B}$

6. $x$

7. If $V W=20, \& Y Z=5 x$, find $x$

8. $x$
$\odot R \cong \odot S$


The radius of circle $Y$ is $34, A B=60$, and $m \widehat{A C}=71$. Find each of the following, round to the nearest hundredth if necessary.
9. $m \widehat{B C}$
10. $m \widehat{A B}$
11. $A D$
13. $D C$
12. YD
14. $A B$


## Unit 10 - Circles - Day 1 - 4 Review

Matching: Use circle $\mathbf{C}$ 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.
$\overline{\mathrm{FG}}$ is $\mathrm{a}(\mathrm{n})$ $\qquad$ and $\mathrm{a}(\mathrm{n})$ $\qquad$ of circle C.
$D H$ is a(n) $\qquad$ of circle C.
$\overline{\mathrm{CE}}$ is $\mathrm{a}(\mathrm{n})$ $\qquad$ of circle $C$.
GFH is $\mathrm{a}(\mathrm{n})$ $\qquad$ of circle C.
$\overline{\mathrm{EF}}$ is $\mathrm{a}(\mathrm{n})$ $\qquad$ of circle C.
$G F$ is a(n) $\qquad$ of circle C.

$\angle E C H$ is a(n) $\qquad$ of circle C.
$\angle E F G$ is a(n) $\qquad$ of circle C.

Use circle C to answer the questions.
$\overline{\mathrm{DE}}$ and $\overline{\mathrm{FG}}$ are diameters, $\overline{\mathrm{DE}} \perp \overline{\mathrm{FG}}, m \angle \mathrm{FCH}=45$, and the radius of circle C is 4 inches. Length
10. $m \angle \mathrm{DCH}=$ $\qquad$
12. $\mathrm{mEH}=$ $\qquad$
14. $\mathrm{FG}=$ $\qquad$
16. $\mathrm{EF}=$ $\qquad$
18. $\mathrm{EF} \cong$ $\qquad$

11. $\mathrm{mFH}=$ $\qquad$
13. $\mathrm{EGH}=$ $\qquad$
15. $\mathrm{FC}=$ $\qquad$
17. $\overline{\mathrm{EF}} \cong$ $\qquad$
19. $\mathrm{EH} \cong$ $\qquad$
20. Circle $H$ has a radius of 20 units, and circle K has a radius of 16 units. If $\mathrm{JI}=6$, find HI .

21. Z is the center of two circles with radii $\overline{Z S}$ and $\overline{Z B}$. If $m \angle T Z S=53$ and $\mathrm{m} \operatorname{arc}(\mathrm{AC})=$ 108 , find $m \operatorname{arc}(A D B)$.


Use circle V to answer the questions. $m \angle \mathrm{UVR}=70, \mathrm{VR}=8$, and US $=12$.
Round to the nearest tenth, if necessary.
23. $\mathrm{RS}=$ $\qquad$
24. $\mathrm{VS}=$ $\qquad$
25. $m \angle U V S=$ $\qquad$
26. $m T S=$ $\qquad$

22. In circle $\mathrm{R}, m \angle T R U=46, m \angle S R V=58$, and $\overline{S T}$ is a diameter. Find $m \angle S R U$.


Use Circle Q to answer the questions. Round answers to the nearest tenth, if necessary.
27. $\overline{U V} \cong$ $\qquad$ .
28. Suppose $U V=5 x-8$ and $R T=2 x+19$. Find the radius

29. A circle has a diameter of 11 feet. Find the circumference and the area.
30. Find the radius of the circle with a circumference of 68 kilometers.
31. Find the area of a circle with circumference of $40 \pi$ millimeters.
32. In a circle with radius of 16 kilometers, find the arc length if the central angle is $100^{\circ}$.
33. Find the circumference of the circle.

29) $\mathrm{C}=$ $\qquad$ $\mathrm{A}=$ $\qquad$
30) $\mathrm{r}=$ $\qquad$
31) $\mathbf{A}=$ $\qquad$

32) Arc Length $\qquad$
33) $\mathrm{C}=$

35. What is the length of the minor arc $\overparen{\mathrm{AB}}$ 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?
37. Given $\overparen{m \mathrm{AC}}=m \overparen{\mathrm{BC}}$ and $\angle A D B$ is a central angle, what is the value of $x$ and $\overparen{\mathrm{BC}}$ ?
A. $x=18, \quad m \overparen{B C}=136^{\circ}$
B. $x=9.2, m \overparen{B C}=88^{\circ}$
C. $x=18, m \overparen{B C}=88^{\circ}$
D. $x=9.2, \quad m \mathrm{BC}=136^{\circ}$

38. Find the value of $y$


## Unit 10 - Circles - Day 5 - Tangents

Determine whether each segment is tangent to the given circle and justify your answer.
1.

2.

3.


## Find the of the following

4. $x$

5. $Q W$

6. $T P$

7. $A B$

8. $F G$


Find the value of $x$ and the perimeter of each polygon.


$$
x=
$$

$\qquad$
Perimeter $=$ $\qquad$
11.


$$
x=
$$

$\qquad$
Perimeter $=$ $\qquad$
12.

$\qquad$
Perimeter $=$ $\qquad$

## Unit 10 - Circles - Day 6 - Angle Relationships in a Circle

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

1. $m \angle 1$

2. $m \bar{G} H$

3. $m \angle 3$

4. $m \overparen{R T}$

5. $m \angle 5$

6. $m \angle 6$


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

1. $m \angle 1$

2. $m \angle 2$

3. $m \overparen{J P}$

4. $m \overparen{L N}$

5. $m \angle V$

