Geometry- Mrs. Tilus   Name: ___Key___

Unit 10- Worksheet #2: Find Arc Measures.

In ⊙ F, determine whether the given arc is a minor arc, major arc or semicircle.

1. $\overset{\frown}{AB}$ → Minor Arc   2. $\overset{\frown}{AE}$ → Minor Arc

3. $\overset{\frown}{EAC}$ → Semicircle   4. $\overset{\frown}{ACD}$ → Major Arc

5. $\overset{\frown}{CAD}$ → Major Arc   6. $\overset{\frown}{DEB}$ → Semicircle

7. $\overset{\frown}{BAE}$ → Minor Arc   8. $\overset{\frown}{DEC}$ → Major Arc
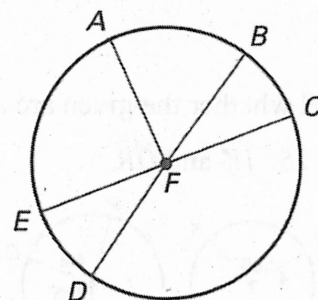
In the figure, $\overline{PR}$ **and** $\overline{QS}$ **are diameters of** ⊙ U. Find the measure of the indicated arc.
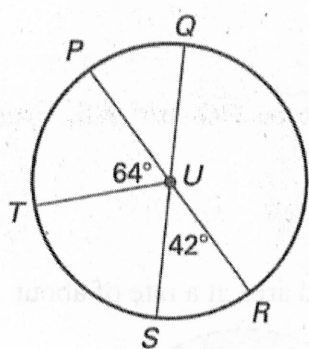
9. $m\overset{\frown}{PQ} = 42°$ 10. $m\overset{\frown}{ST} = 74°$ 11. $m\overset{\frown}{TPS} = 286°$

12. $m\overset{\frown}{RT} = 116°$ 13. $m\overset{\frown}{RQS} = 318°$ 14. $m\overset{\frown}{QR} = 138°$

15. $m\overset{\frown}{PQS} = 222°$ 16. $m\overset{\frown}{TQR} = 244°$ 17. $m\overset{\frown}{PS} = 138°$

18. $m\overset{\frown}{PTR} = 180°$

$\overline{PQ}$ has a measure of 90° in ⊙ R. Find the length of $\overline{PQ}$.

19.   20.

    PQ = 7√2 units   PQ = 10√2 units

                        or   OR
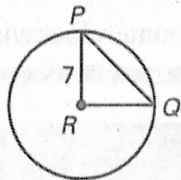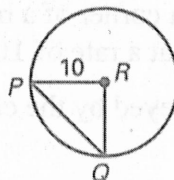
                        PQ ≈ 9.9 units   PQ ≈ 14.14 units

Find the indicated arc measure.

21. $m\overset{\frown}{AC} = 135°$ 22. $m\overset{\frown}{ACB} = 240°$ 23. $m\overset{\frown}{DAB} = 225°$
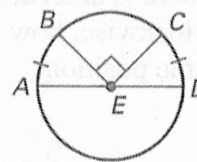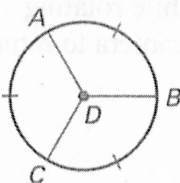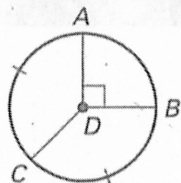
24. Two diameters of $\odot T$ are $\overline{PQ}$ and $\overline{RS}$. Find the given arc measure in $m\overset{\frown}{PR} = 35°$
   It helps to draw the circle

a.) $m\overset{\frown}{PS} = 145°$ b.) $m\overset{\frown}{PSR} = 325°$

c.) $m\overset{\frown}{PRQ} = 180°$ d.) $m\overset{\frown}{PRS} = 215°$

Tell whether the given arc are congruent. Show work to support your answer.

25. $\overset{\frown}{JK}$ and $\overset{\frown}{QR}$
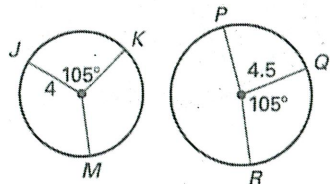
NO

26. $\overset{\frown}{AB}$ and $\overset{\frown}{CD}$
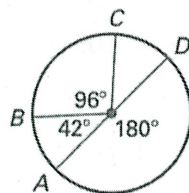
Yes

27. $\overset{\frown}{EF}$ and $\overset{\frown}{GH}$
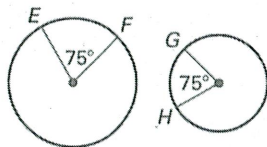
No

28. $\overset{\frown}{STV}$ and $\overset{\frown}{UVT}$
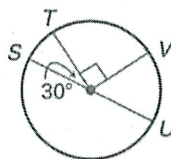
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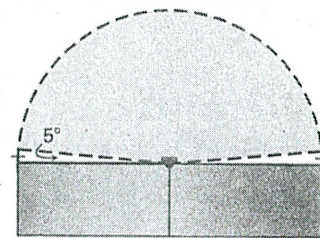
29. A water sprinkler covers the area shown in the figure. It moves through the covered area at a rate of about 5° per second. Show work to support your answer.

a.) What is the measure of the arc coverd by the sprinkler?

170°

b.) If the sprinkler starts at the far left position, how long will it take for the sprinkler to reach the far right position?

34 seconds

30. A surveillance camera is mounted in a corner of a building. It rotates clockwise and counterclockwise continuously between Wall A and Wall B at a rate of 10° per second. Show work to support your answer.

a.) What is the measure of the arc surveyed by the camera?

270°

b.) How long does it take the camera to survey the entire area once?

27 minutes

c.) If the camera is at an angle of 85 from Wall B while rotating Counterclockwise, how long will it take for the camera to return to that same position?

37 minutes