Name: Key

# Geometry 10.1-10.2 HW

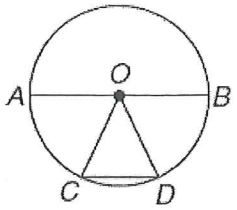
**1. Identification**

a. Name the circle.

Circle O
or ⊙O

b. Name the radii of the circle.

Example:
OA, OB, OC, OB




c. Name the chords of a circle.

AB or CD

d. Name the diameter of the circle.

AB

2. Find the circumference of a circle with the radius of $r=3\sqrt{2}$. Round to the nearest hundredth.

$C = 2\pi r$
$C = 2\pi 3\sqrt{2}$ $C = 6\sqrt{2}\pi \approx 26.66$

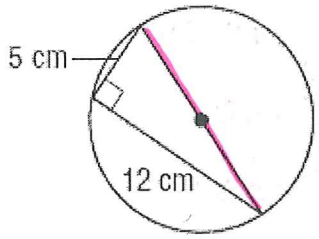
3. If the radius of a circle is 4 what is the diameter and what is the circumference?

$d = 8$
$C = 8\pi$

4. If the diameter of a circle is 6, find the radius and circumference.

$r = 3$
$C = 6\pi$

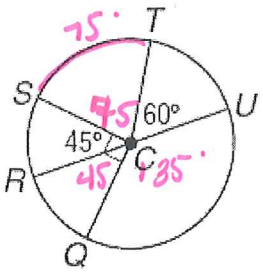
5. Find the circumference of the circle.




$C = 13\pi$ cm

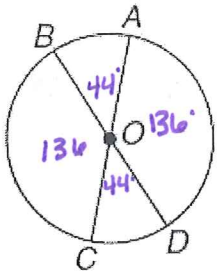
**Find each measure.**

1. $m\angle SCT$ = 75°
2. $m\angle SCU$ = 75 + 60 = 135°
3. $m\angle SCQ$ = 45°
4. $m\angle QCT$ = 45 + 45 + 75 = 165°




**In $\odot O$, $m\angle BOA = 44$. Find each measure.**

5. $m\overset{\frown}{BA}$ 44°
6. $m\overset{\frown}{BC}$ = 136°
7. $m\overset{\frown}{CD}$ 44°
8. $m\overset{\frown}{ACB}$ = 316°
9. $m\overset{\frown}{BCD}$ = 180°
10. $m\overset{\frown}{AD}$ = 136°

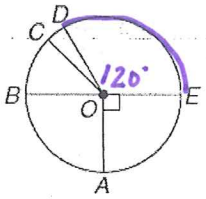



## Arc Length:

$$\frac{\text{length of } \overset{\frown}{AB}}{\text{circumference}} = \frac{\text{degree measure of arc}}{\text{degree measure of circle}}$$

**The diameter of $\odot O$ is 24 units long. Find the length of each arc for the given angle measure. Round to the nearest tenth.**

r = 12



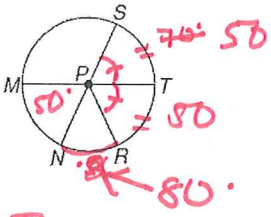

1. $\overset{\frown}{DE}$ if $m\angle DOE = 120$

$$\frac{120}{360} \cdot C = \frac{120}{360} \cdot \frac{24\pi}{1} = \frac{2880\pi}{360}$$

arc length = $8\pi$ units

**The diameter of $\odot P$ is 15 units long and $\angle SPT \cong \angle RPT$. Find the length of each arc for the given angle measure. Round to the nearest tenth.**

d = 15




2. $\overset{\frown}{RT}$ if $m\angle SPT = 70$

$$\frac{70}{360} \cdot 15\pi = \frac{1050\pi}{360} = \frac{35\pi}{12} \text{ units}$$

3. $\overset{\frown}{NR}$ if $m\angle RPT = 50$

$$\frac{80}{360} \cdot 15\pi = \frac{1200\pi}{360} = \frac{10\pi}{3}$$

4. **Explain the difference between arc Length and arc measure.**

* Arc measure is the degree of rotation around the arc.

* Arc length is the portion of the circumference.