Name Schlansky

Mr. Schlansky
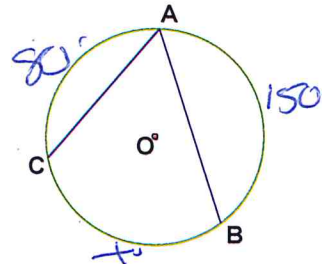
Arcs, Inscribed and Central Angles

1. In circle O, $\overset{\frown}{CA} = 80°$ and $\overset{\frown}{AB} = 150°$. Find BC

The arcs of a circle add to $360°$

$$80 + 150 + x = 360$$
$$230 + x = 360$$
$$-230 \qquad -230$$
$$x = 130$$

2. In circle O, $\overset{\frown}{DC} = 75°$, find $\overset{\frown}{CB}$

Diameters cuts a circle into 2 halves of $180°$.

$$x + 75 = 180$$
$$-75 \quad -75$$
$$x = 105$$
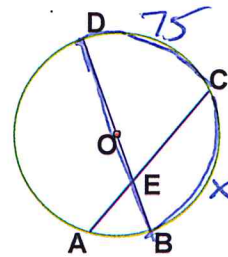
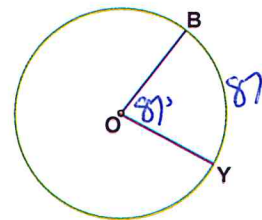3. If $\overset{\frown}{DG} = 130°$, find the measure of $\angle DOG$.

Central angle = intercepted arc

$$\angle DOG = 130°$$
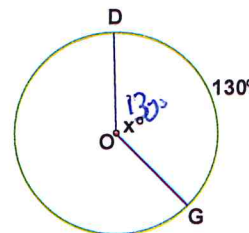
4. If $\angle BOY = 87°$, find the measure of $\overset{\frown}{BY}$.

Central angle = intercepted arc
$$\overset{\frown}{BY} = 87°$$

5. If $\angle AOR = 102°$, find $\overset{\frown}{AR}$.

Central angle = intercepted arc
$$\overset{\frown}{AR} = 102°$$

The arcs of a circle add to $360°$.

$$102 + x = 360$$
$$-102 \quad -102$$
$$x = 258°$$

$$\overset{\frown}{AR} = 258°$$
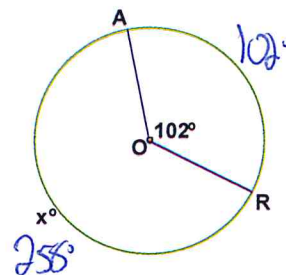
6. If $\angle RAY = 35°$, find $\overset{\frown}{RY}$

inscribed angle $= \frac{1}{2}$(intercepted arc)

$2(35) = 70$

$\overset{\frown}{RY} = 70$

70

x°

R

Y

O.

35°

A
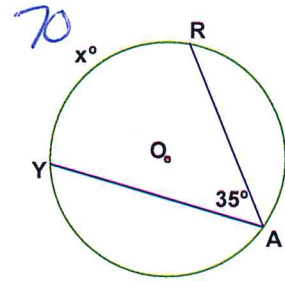
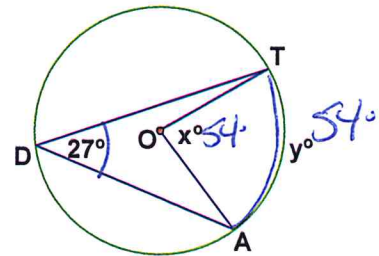7. If $\overset{\frown}{BD} = 170°$, find the measure of $\angle BED$.

inscribed angle $= \frac{1}{2}$(intercepted arc)

$\frac{1}{2}(170) = 85°$

$\angle BED = 85°$

E

x°

B

°O

D

170°
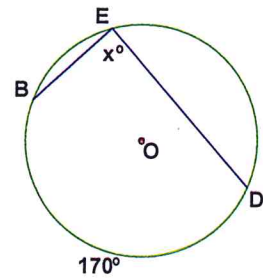
8. If $\angle TDA = 27°$, find:
a) $\angle TOA = 54°$
b) $\overset{\frown}{TA} = 54°$

inscribed angle $= \frac{1}{2}$(intercepted arc)

$= 2(27) = 54$

$\overset{\frown}{TA} = 54°$

Central angle $=$ intercepted arc

$\angle TOA = 54°$

T

D 27° O x° 54° y° 54°

A

9. In circle K, $m\angle TRI = 4x + 6$ and $\overset{\frown}{TI} = 84°$. Find the value of x.

inscribed angle $= \frac{1}{2}$(intercepted arc)

$\frac{1}{2}(4x+6) = 84$

$8x + 12 = 84$

$\quad -12 \quad -12$

$\frac{8x}{8} = \frac{72}{8}$

$x = 9$

84

T

I

K

4x+6

R