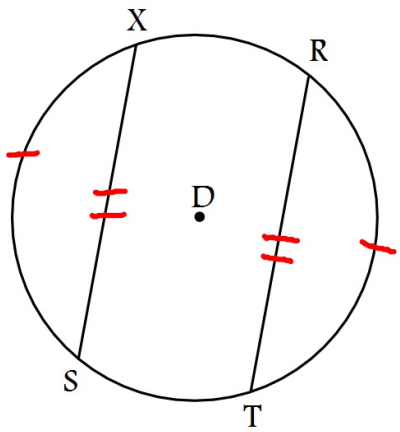
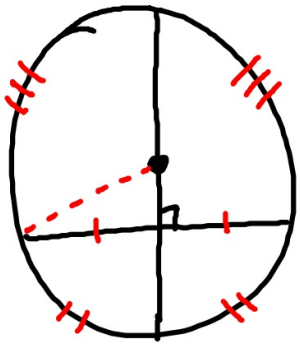
p. 715 10.3 Arcs and Chords



In the same circle or in congruent circles, two minor arcs are ≅ if and only if their corresponding chords are ≅.

Example:

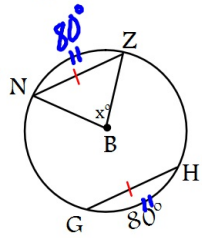


Set equal to solve!

Use Pythagorean Theorem

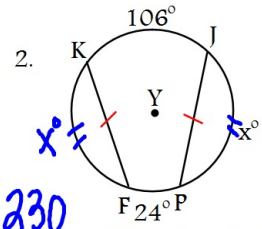
Example: Find the value of x.

1.



$\boxed{x=80°}$

2.



$x+x+24+106=360$

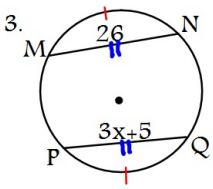
$2x+130=360$

$-130 \quad -130$

$\frac{2x}{2}=\frac{230}{2}$

$\boxed{x=115°}$

3.



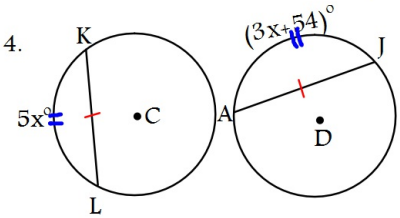
$3x+5=26$

$-5 \quad -5$

$\frac{3x}{3}=\frac{21}{3}$

$\boxed{x=7}$

4.



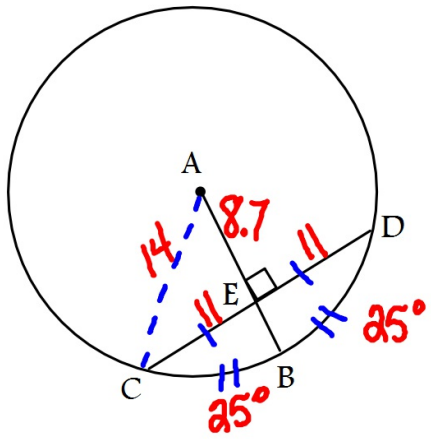
$5x=3x+54$

$-3x \quad -3x$

$\frac{2x}{2}=\frac{54}{2}$

$\boxed{x=27}$

5. In circle A, the radius is 14, CD=22, $m\overset{\frown}{CD} = 50^\circ$. Find each measure. Round to the nearest tenth if necessary.



a.) CE

$\boxed{11}$

b.) AE

$11^2 + AE^2 = 14^2$

$121 + AE^2 = 196$

$-121 \quad -121$

$\sqrt{AE^2} = \sqrt{75}$

$\boxed{AE = 8.7}$

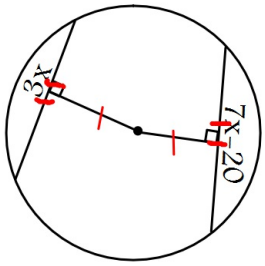
c.) EB

$14 - 8.7 = \boxed{5.3}$

d.) $m\overset{\frown}{CB}$

$\boxed{25^\circ}$

6.



Find x.

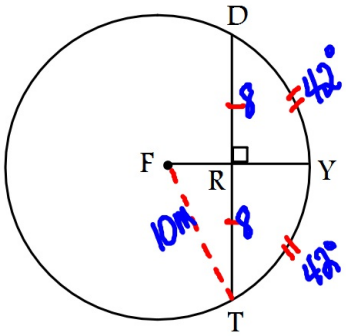
$3x = 7x - 20$

$-7x \quad -7x$

$\frac{-4x}{-4} = \frac{-20}{-4}$

$\boxed{x = 5}$

7.



The diameter of circle F is 20 m, $m\overset{\frown}{DT} = 84^\circ$, DT = 16 m.

a.) $m\overset{\frown}{DY}$ 42°

b.) DR 8

c.) FR

$8^2 + x^2 = 10^2$

$-64 + x^2 = 100$

$-64 \quad -64$

$\sqrt{x^2} = \sqrt{36}$

$\boxed{x = 6}$

Turn-in:

Quick Check 10.3

HW:

p.718 (1-6, 10-22 evens, 32)