Where is the vertex?.

Center	inside not center	outside	on circle
How made	2 radii	2 chords 2 secants	2 Tangents 2 secants 2 chords	2 secants 2 chords
Central			1 tangent 1 Secant	1 secant 1 tangent
Equals the arc	½ [arc + arc]	½ [arc - arc]	½ arc
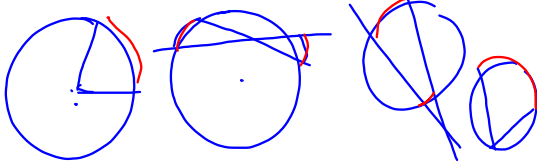
Circle Theorems – Length
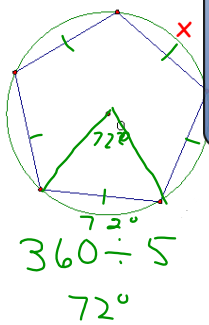
Congruent chords cut congruent arcs

Congruent Chord Theorem:

Pull

$360 \div 5$

$72°$

$72°$

$72°$

×

Parallel chords cut congruent arcs

Parallel Chord Theorem:

Pull

E   K

O

4x

$140°$
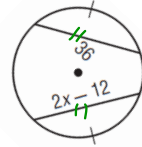
C   L

$140 = 4x$

$35 = x$

A   B

C

D

or diameter

A radius ⊥ to a chord

will bisect the chord

Radius-chord Theorem:

Pull

$10^2 = 6^2 + x^2$

$\sqrt{64} = 4$

10   6

x   8   4   E   8   D

$CD = 16$
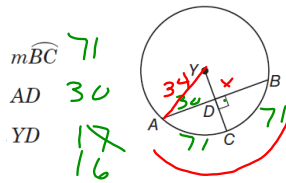
$EB = 4$

Congruent Arc intercept congruent chords. Find x

36
2x − 12

$36 = 2x - 12$

12

$48 = 2x$

$24 = x$
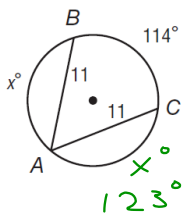
Congruent Chords intercept congruent arcs find x

B   114°

11

x°   11   C

A   x°

$123°$

$\dfrac{360 - 114}{2} = \dfrac{246}{2}$

$123°$

In ⊙Y the radius is 34, $AB = 60$, and $m\widehat{AC} = 71$. Find each measure. Round to the nearest hundredth.

$m\widehat{BC}$ 71

AD 30
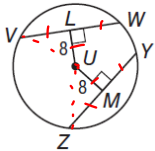
YD 17, 16

$34^2 = 30^2 + x^2$

$256 \; x^2$

$\sqrt{256} = x$

$m\widehat{AB}$ 142°

BD 30°

DC 185

$34 - 16$
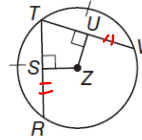
In $\odot U$, $VW = 20$ and $YZ = 5x$. What is x?

$20 = 5x$
$4 = x$
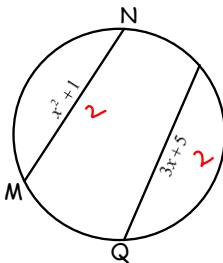
In $\odot Z$, $\overarc{TR} \cong \overarc{TV}$, $SZ = x + 4$, and $UZ = 2x - 1$. What is x?

$x + 4 = 2x - 1$
$5 = x$

Find X such that the chords are congruent

$x^2 + 1 = 3x + 5$
$x^2 - 3x - 4 = 0$
$(x - 4)(x + 1) = 0$
$x = 4, -1$

Assignment:

flexbook pg 109 1 - 27

3-2-1--

Write down 3 things you learned, 2 problems you struggle with and 1 idea to help you improve.