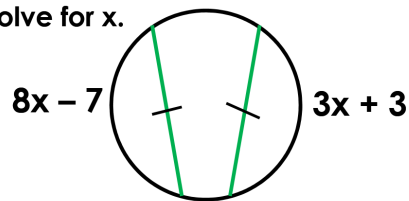


Segment Lengths and Chords

Unit 3B: Segments in Circles

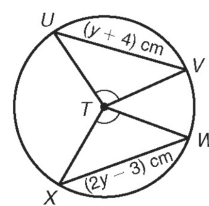
If two chords are congruent, then their corresponding arcs are congruent.

Solve for x .



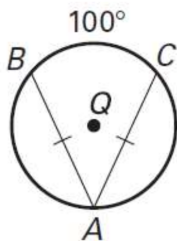
Example

Find WX .



Example

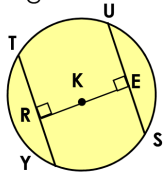
Find $m\widehat{AB}$



If two chords are congruent, then they are equidistant from the center.

Segment Legths and Chords

In $\odot K$, K is the midpoint of RE . If $TY = -3x + 56$ and $US = 4x$, find the length of TY .

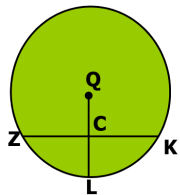


If a diameter is perpendicular to a chord, then it also bisects the chord.

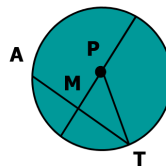
This results in congruent arcs too.

Sometimes, this creates a right triangle & you'll use Pythagorean Theorem.

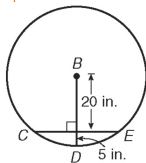
In $\odot Q$, $\widehat{KL} \cong \widehat{LZ}$. If $CK = 2x + 3$ and $CZ = 4x$, find x .



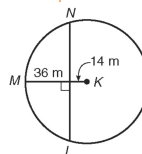
In $\odot P$, if $PM \perp AT$, $PT = 10$, and $PM = 8$, find AT .



Example



Example



Segment Legths and Chords

Segment Lengths in Circles

Find the measure of the given arc or chord.

1. $m\widehat{BC}$



2. $m\widehat{LM}$



3. \widehat{QS}



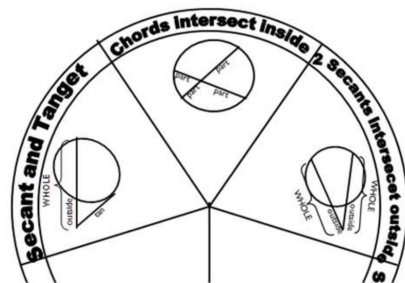
4. $m\widehat{AC}$



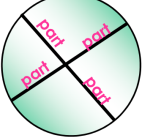
5. $m\widehat{PQR}$



6. $m\widehat{KLM}$

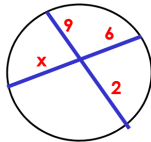


Type 1: Two chords intersect
INSIDE the circle



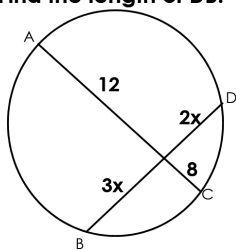
Go down the chord and multiply

Solve for x.



Segment Lengths and Chords

Find the length of DB.



Find the length of AC and DB.

