WELCOME

## Warm Up

## 1. Find each measure:

Find the measure in $\odot T$.
3. $m \overparen{R S}$

4. |  |
| ---: | :--- |
| $R P S$ |
5. $m \overparen{P Q R}$
6. $m \overparen{Q S}$
7. $m \overparen{Q S P}$
8. $m \angle Q T R$


## 2. Solve the quadratic:

## Chapter 9 Section 4 Chords In Circles

### 9.4 Learning Target

Calculating Segments and Arc Lengths using Chord and Diameter Theorems in Circles.

## Diameter Chord Theorem

If a diameter of a circle is perpendicular to a chord, then the diameter bisects the chord and its arc.


If $\perp$ then $\overline{B D} \cong \overline{D C}$ and $\overparen{B A} \cong \widehat{A C}$

## Equidistant Chord Theorem

In the same circle, or in congruent circles, two chords are $\cong$ iff they are equidistant from the center.


Solve for x
45.

46.


## Congruent Arcs and Chords

In the same circle, or in $\cong$ circles, two minor arcs are congruent iff their corresponding chords are $\cong$

$\widehat{\mathrm{AB}} \cong \overparen{\mathrm{CA}}$ iff $\overline{A B} \cong \overline{C A}$

Solve for $\mathbf{x}$


## Chord Diameter Theorem

If one chord is a perpendicular bisector of another chord, then the first chord is a diameter.

$\overline{X Z}$ is the Diameter

