### 10.1 Use Properties of Tangents

Circle: the set of all points in a plane that are equidistant from a given point called
the $\qquad$ . A circle is named by its center.

Radius: a segment that has one endpoint at the center of the circle and the other endpoint on the circle.

Chord: a segment whose endpoints are on a circle.

Diameter: a chord that contains the center of the circle.
(twice the length of the radius)
Secant: a line that intersects a circle in two points.

Tangent: a line, ray, or segment in the plane of the circle that intersects the circle in exactly one point, the
 point of tangency.

Common Tangents: a line, ray, or segment that is tangent to two coplanar circle


In a plane, a line is tangent to a circle if and only if the line is perpendicular to the radius of the circle at its endpoint on the circle.


Tangent segments from a common point outside of the circle are congruent.


1. Find the value of $r$.

2. In the diagram, $R S$ is the radius of circle
$R$. Is $S T$ tangent to circle $R$ ?

3. 

In the diagram, $R$ and $Q$ are points of tangency on $\odot \mathcal{S}$. Find the value of $x$

4. $R S$ and $R T$ are tangent to circle $C$. Find the value (s) of $x$.


