Chapter 10
Circles

10.1 Lines and Segments That Intersect Circles

Circle Vocabulary

- **Center (Circle D)**
- **Diameter**
- **Radius**
- **Chord**
- **Secant**
- **Tangent**
- **Point of Tangency (POT)**
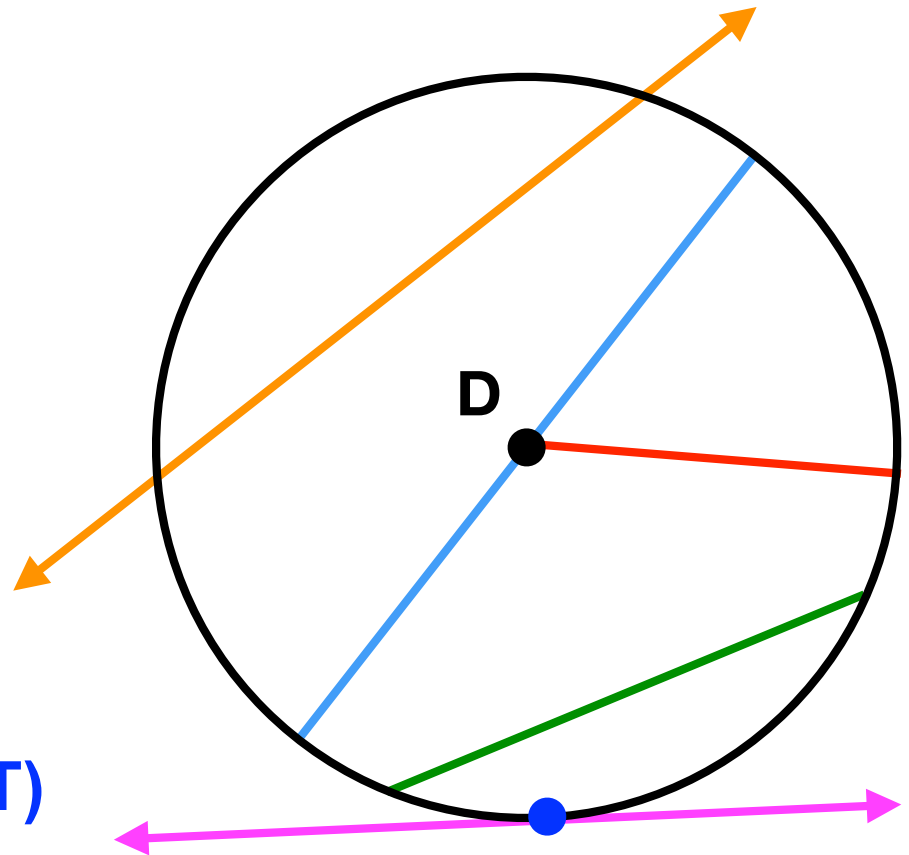
Tangent Circles

- Coplanar circles that intersect in one point are called **tangent circles**.
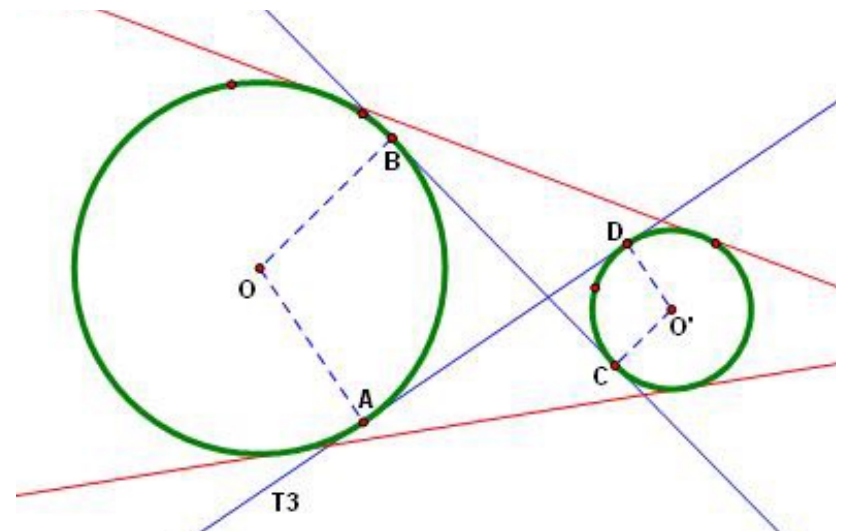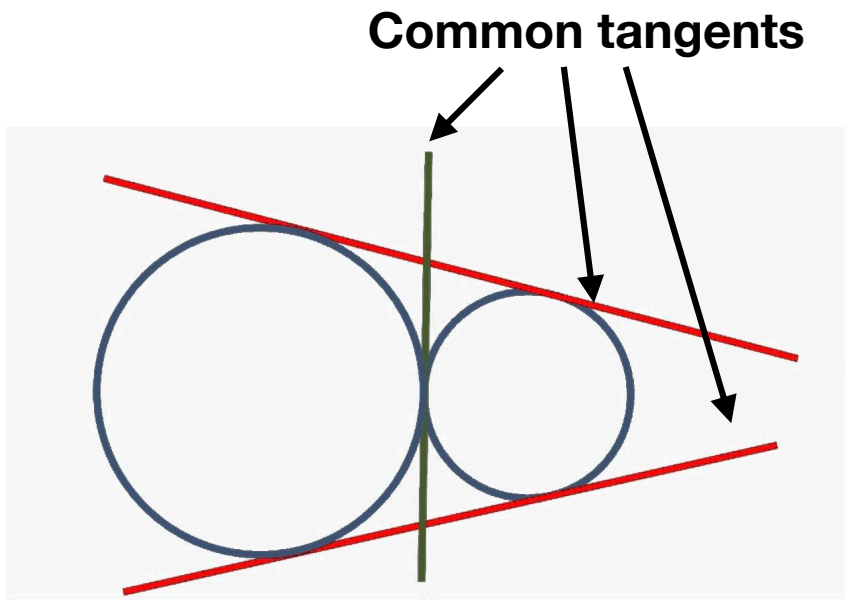
Point of Tangency
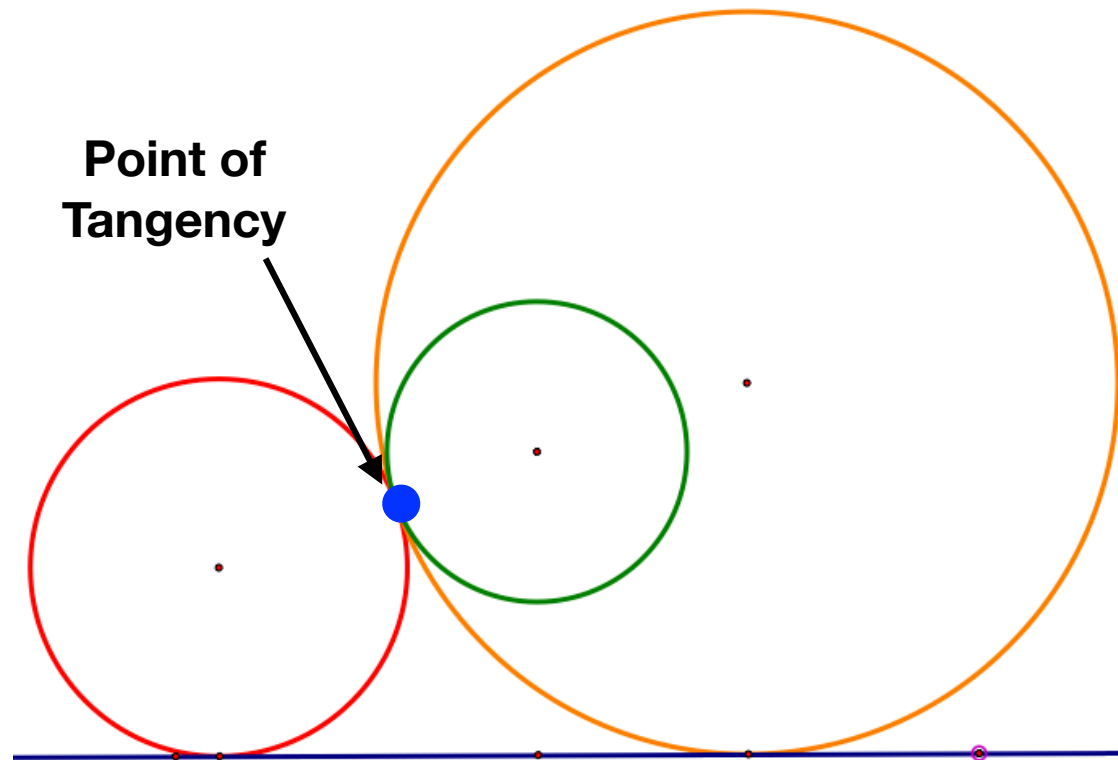
Concentric Circles

- Coplanar circles that have a common center are **concentric circles**.
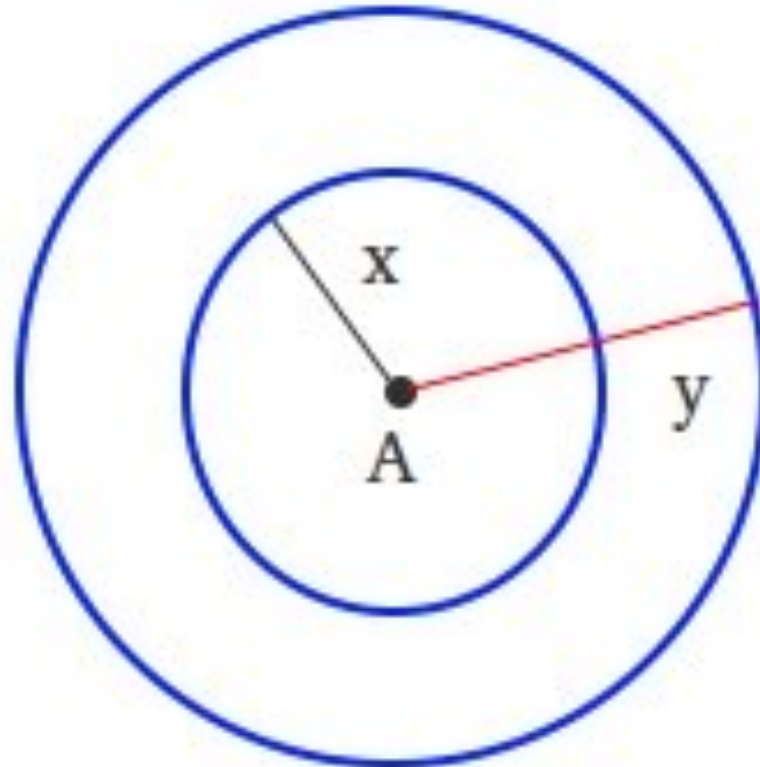
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Common Tangents

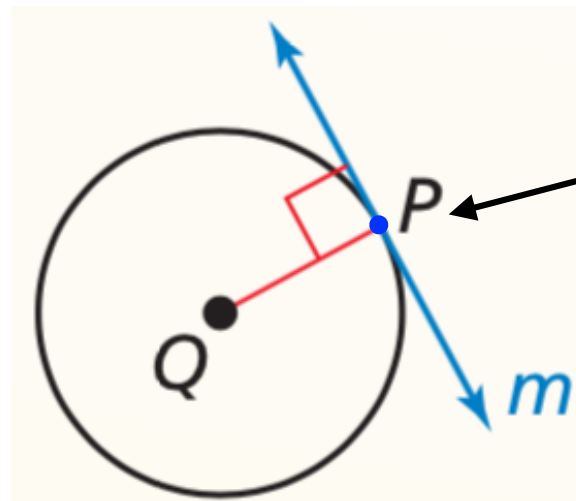- A line or segment that is tangent to two coplanar circles is called a **common tangent**.

Common tangents

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Theorem

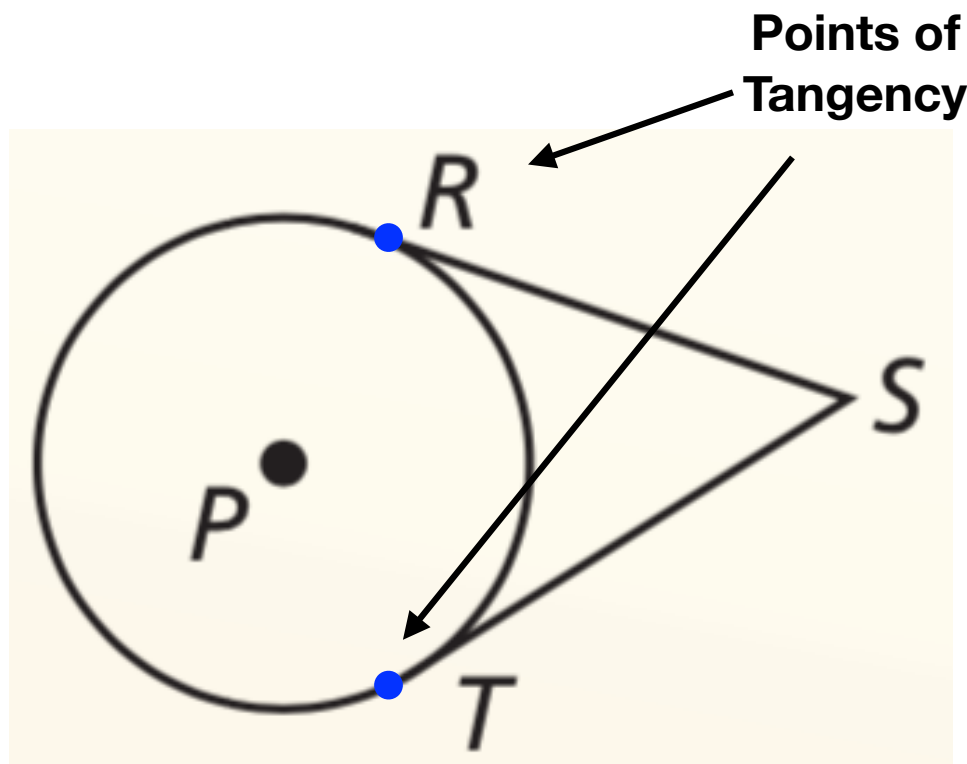| Tangent Line to Circle Theorem	In a plane, a line is tangent to a circle if and only if the line is perpendicular to a radius of the circle at its endpoint on the circle.

Point of Tangency

Theorem

External Tangent Congruence Theorem	Tangent segments from a common external point are congruent.

Points of Tangency

Construct a Proof

Given that SR and ST are tangents,
prove SR is congruent to ST.
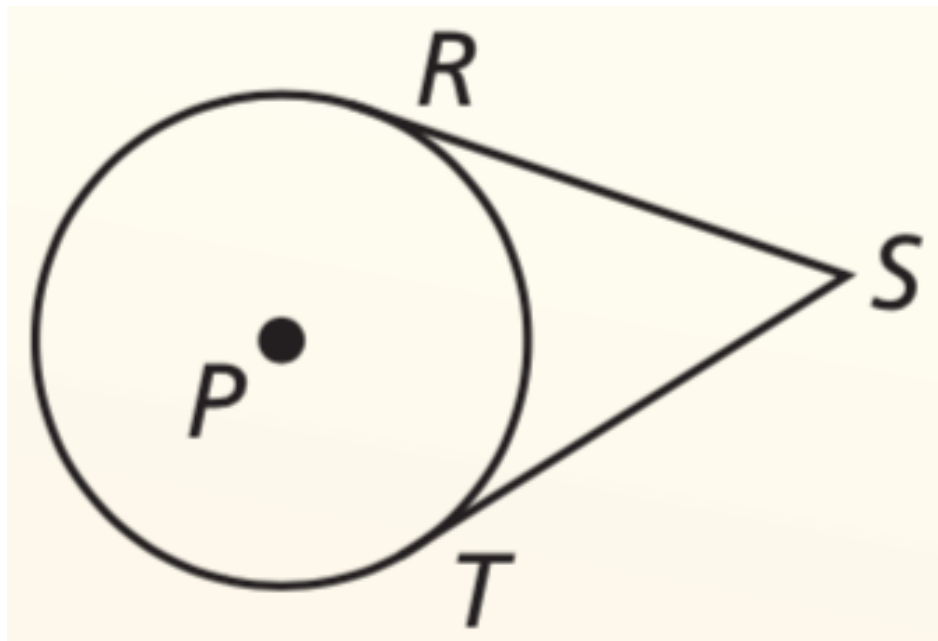
Examples

a) Solve for RS

b) Solve for $m\angle Q$

R

$\frac{x}{4}$

$x - 6.3$

S

T

•Q

R

Q•

42°

P

S