

A decorative graphic on the left side of the page consists of several vertical lines of varying shades of green and a cluster of five solid green circles of different sizes. The largest circle is at the top left, with four smaller circles of varying sizes arranged below and to its right.

CHAPTER 10

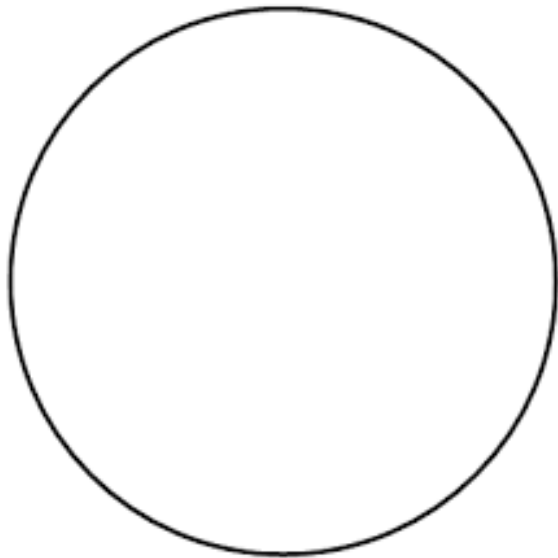
PROPERTIES OF CIRCLES



10.1 USE PROPERTIES OF TANGENTS

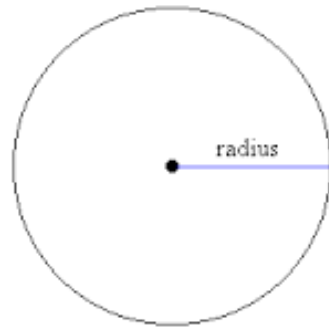
CIRCLE

- The _____ that are _____ from a _____ point.

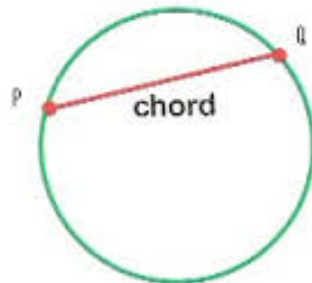


SEGMENTS WITHIN CIRCLES

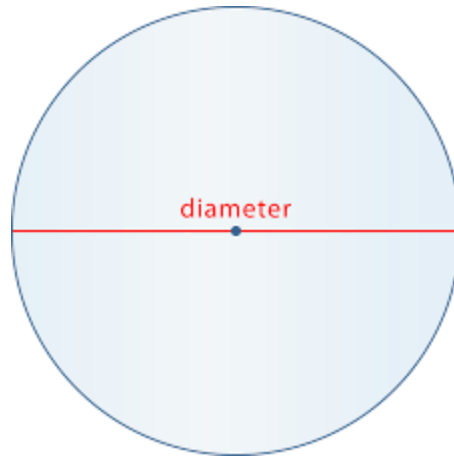
- Radius – the segment from the _____ of the circle to the _____
 - All radii in a circle are _____



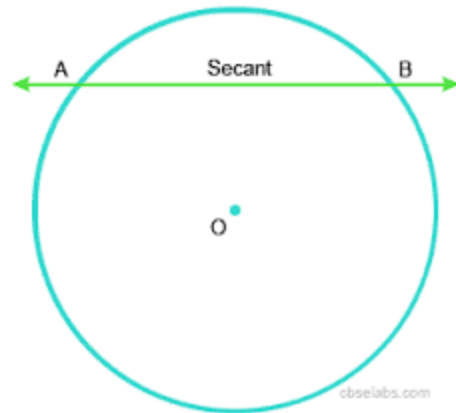
- Chord – a segment whose _____ are on the _____



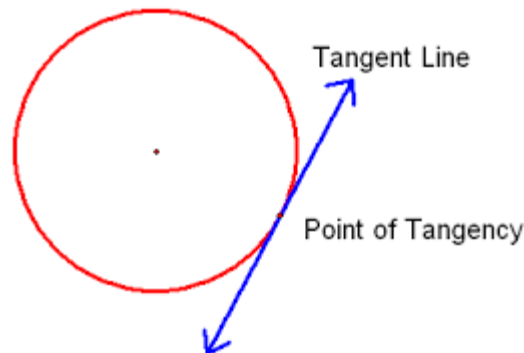
- Diameter – a _____ that goes through the _____
 - All the _____ a circle
 - Radius is always _____ of the diameter



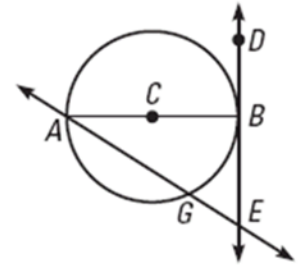
- Secant – a _____ that intersects a circle in _____



- Tangent – a _____ that intersects a circle in _____



EX: Tell whether the line, ray, or segment is best described as a *radius*, *chord*, *diameter*, *secant*, or *tangent* of $\odot C$.



○ AC

○ DE

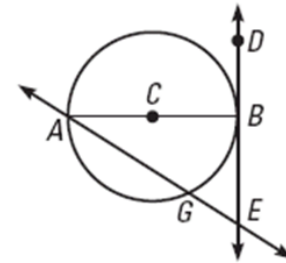
○ AB

○ AE



EX:

1. In Example 1, what word best describes \overline{AG} ? \overline{CB} ?



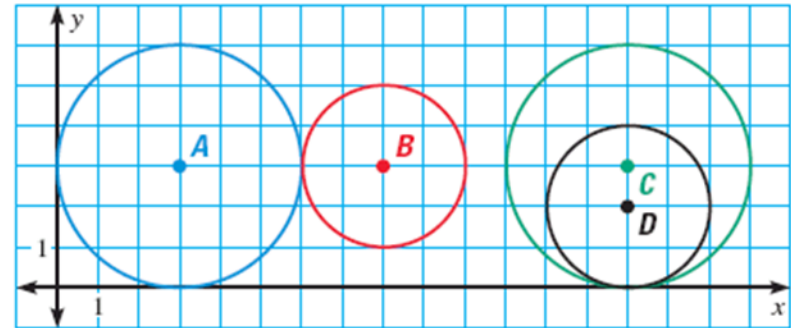
2. In Example 1, name a tangent and a tangent segment.



EX:

Use the diagram to find the given lengths.

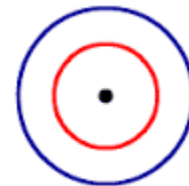
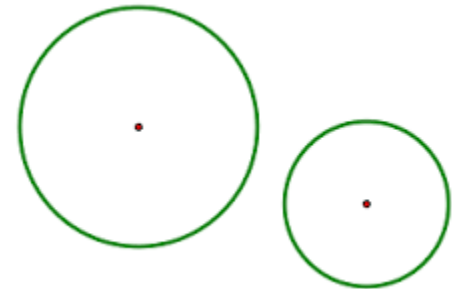
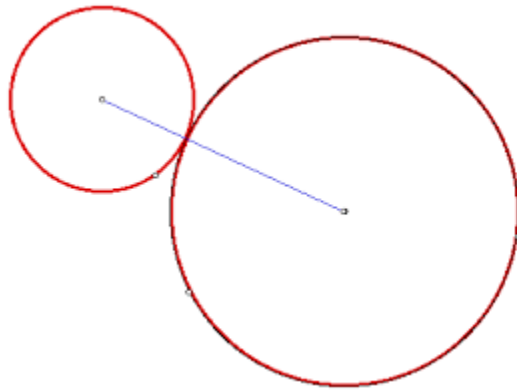
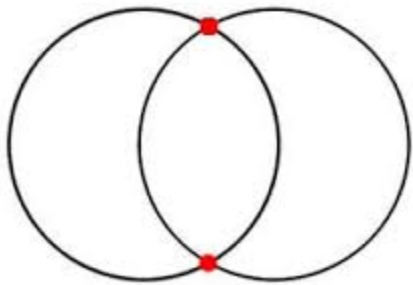
- a. Radius of $\odot A$
- b. Diameter of $\odot A$
- c. Radius of $\odot B$
- d. Diameter of $\odot B$



3. Use the diagram in Example 2 to find the radius and diameter of C and D .

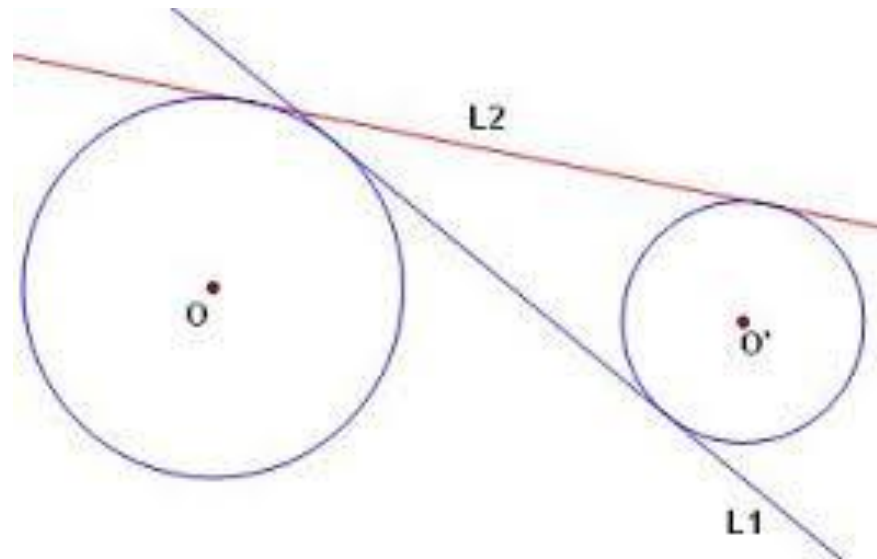
INTERSECTIONS OF CIRCLES

- Two circles can intersect in _____, _____, or _____.
- Tangent circles - _____
- Concentric circles – have a _____



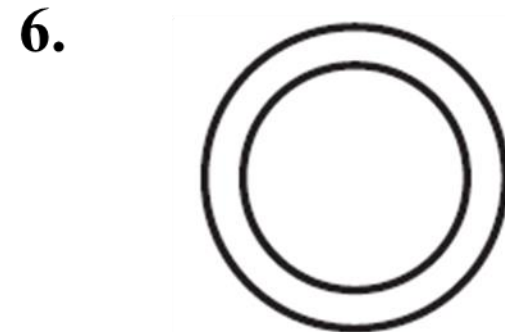
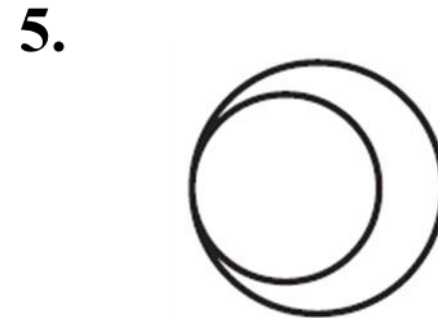
COMMON TANGENTS

- A line that is _____ to _____ circles
 - A line that _____ each circle at _____



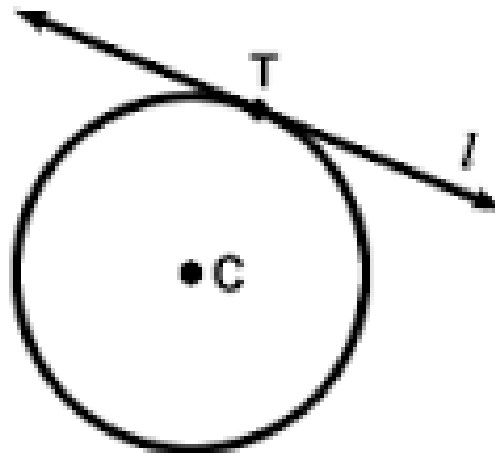
EX:

- Tell how many common tangents the circles have and draw them.



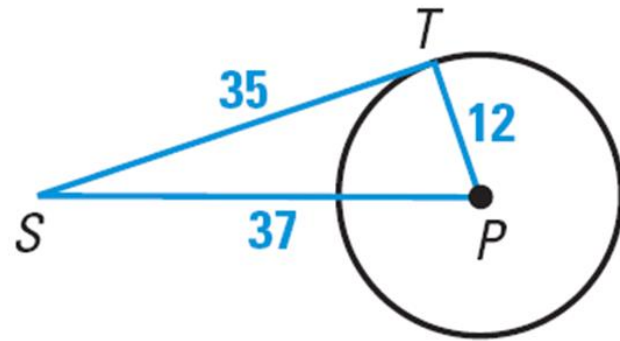
TANGENT LINE THEOREM #1

- A line is _____ to a circle if and only if the line is _____ to a _____ in the circle (a _____ is formed between the _____ and _____)



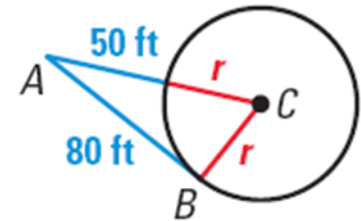
EX:

In the diagram, \overline{PT} is a radius of $\odot P$. Is \overline{ST} tangent to $\odot P$?



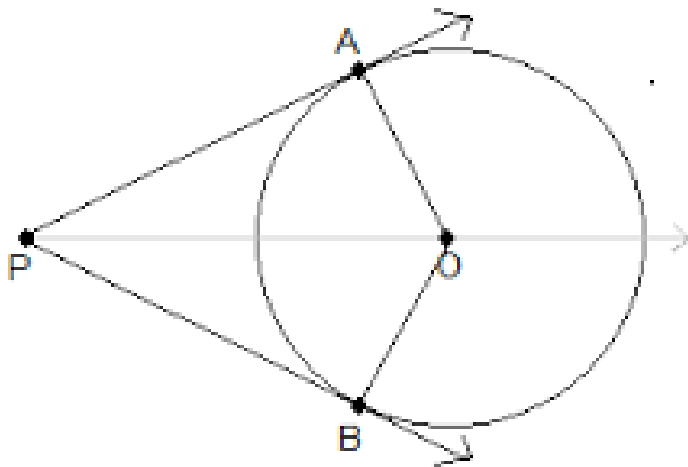
EX:

In the diagram, B is a point of tangency. Find the radius r of $\odot C$.



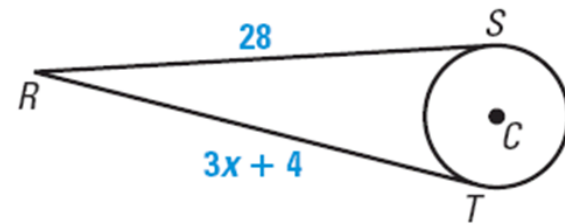
TANGENT LINE THEOREM #2

- Tangent _____ from a _____ to a _____ are _____.



EX:

\overline{RS} is tangent to $\odot C$ at S and \overline{RT} is tangent to $\odot C$ at T .
Find the value of x .



EX:

9. Find the value(s) of x .

