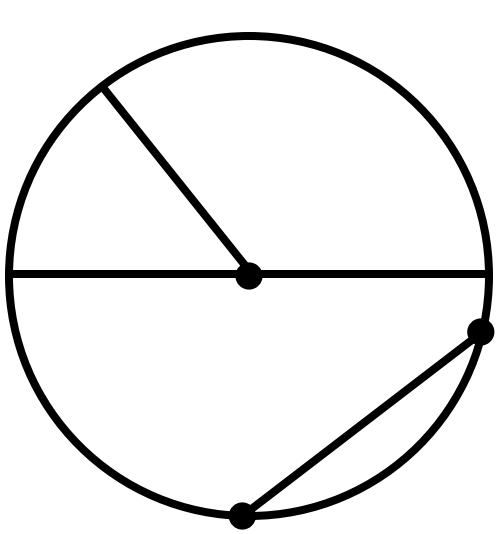
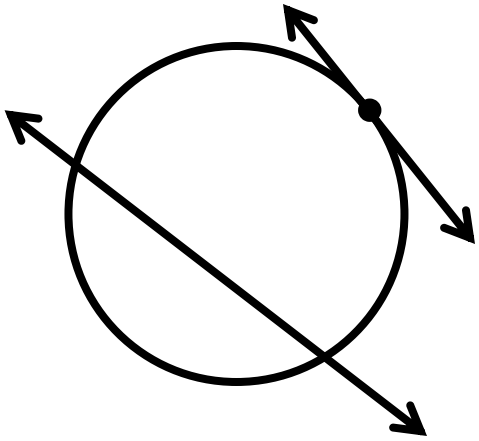
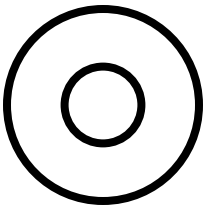
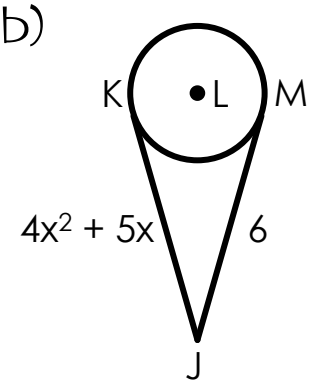
Circles
& Using Properties of
Tangents



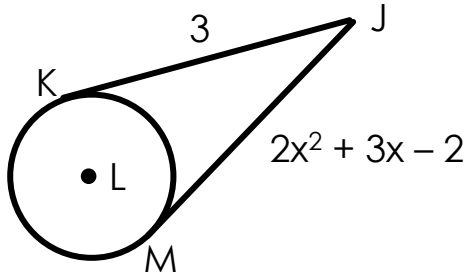




b)



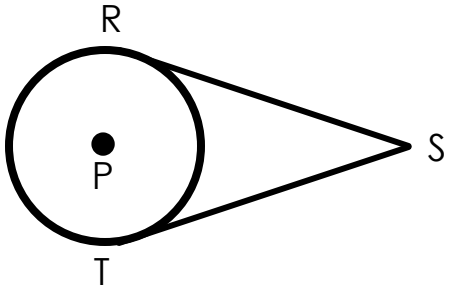
c)



Points of Tangency

Theorem:

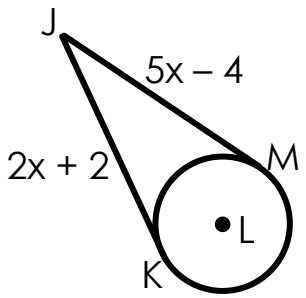
Tangent segments from a common external point are congruent.



If _____ and _____ are tangent segments, then _____ ≅ _____.

Example 2: Find the unknown value. In all examples, $\overline{JK}$ is tangent to $\odot L$ at K and $\overline{JM}$ is tangent to $\odot L$ at M.

a)



Circle:

Center:

Radius:

Chord:

Diameter:

Secant:

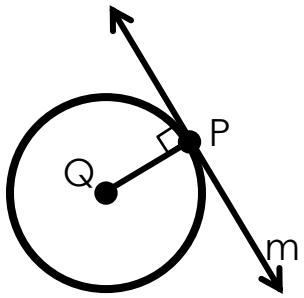
Tangent:

Concentric Circles:

Vocabulary

Theorem:

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

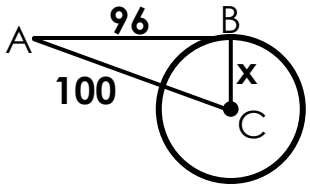


Line _____ is tangent to ⊙Q if and only if _____.

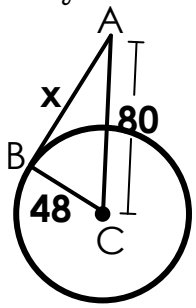
Example 1:

Find the value of x. In all examples $\overline{AB}$ is tangent to ⊙C.

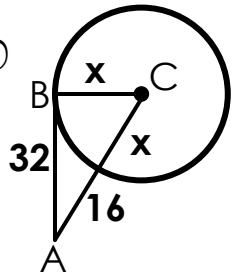
a)



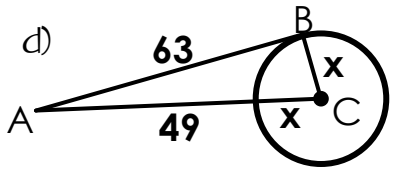
b)



c)



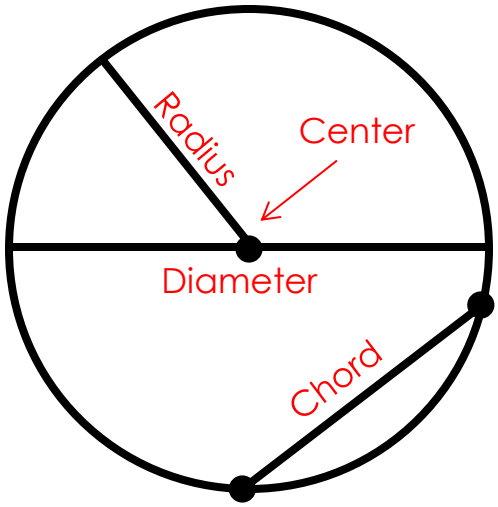
d)

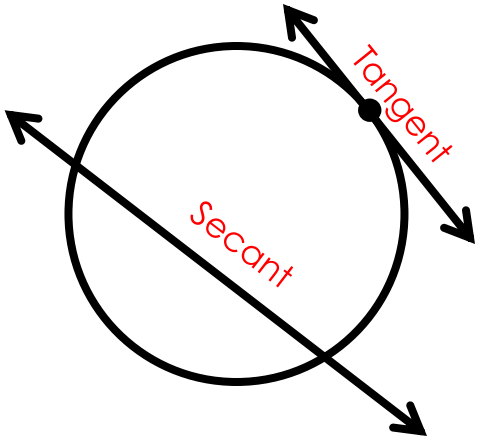


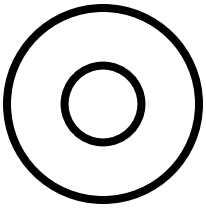
Radius

Answer Key!

Circles & Using Properties of Tangents

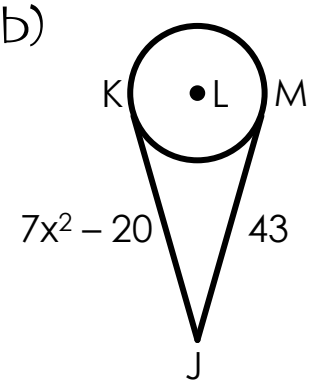






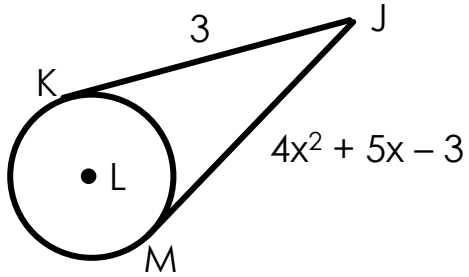
Concentric Circles

b)



3, -3

c)

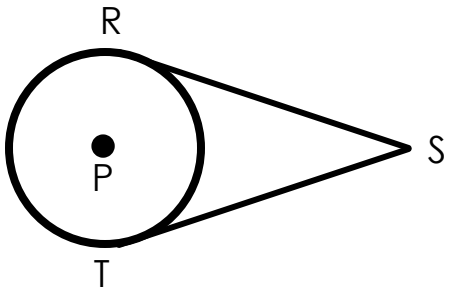


$-2, \frac{3}{4}$

Points of Tangency

Theorem:

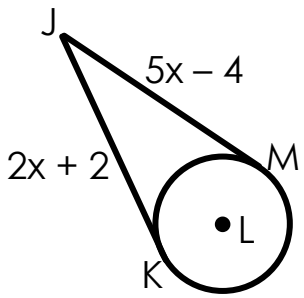
Tangent segments from a common external point are congruent.



If $\overline{SR}$ and $\overline{ST}$ are tangent segments, then $\overline{SR} \cong \overline{ST}$.

Example 2: Find the unknown value. In all examples, $\overline{JK}$ is tangent to $\odot L$ at K and $\overline{JM}$ is tangent to $\odot L$ at M.

a)



x = 2

Circle: The set of all points in a plane that are equidistant from a given point.

Center: The point around which a circle is described

Radius: A segment whose endpoints are the center and any point on the circle.

Chord: A segment whose endpoints are on a circle.

Diameter: A chord that contains the center of the circle.

Secant: A line that intersects a circle in two points.

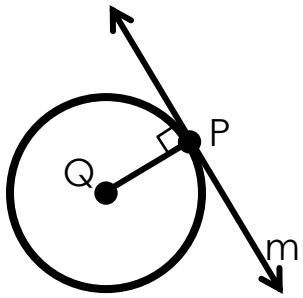
Tangent: A line in the plane of a circle that intersects the circle in exactly one point.

Concentric Circles: Coplanar circles that have a common center

Vocabulary

Theorem:

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

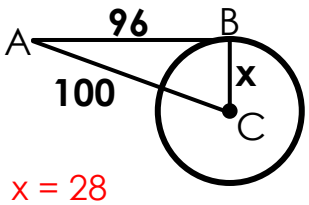


Line m is tangent to $\odot Q$ if and only if $m \perp \overline{QP}$.

Example 1:

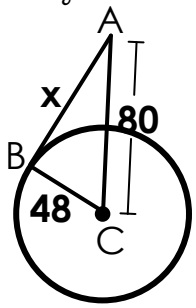
Find the value of x. In all examples $\overline{AB}$ is tangent to $\odot C$.

a)



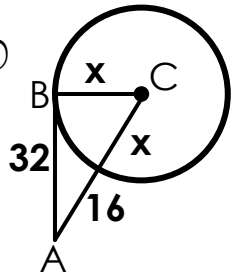
x = 28

b)



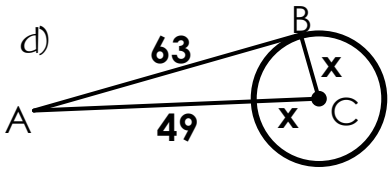
x = 64

c)



x = 24

d)



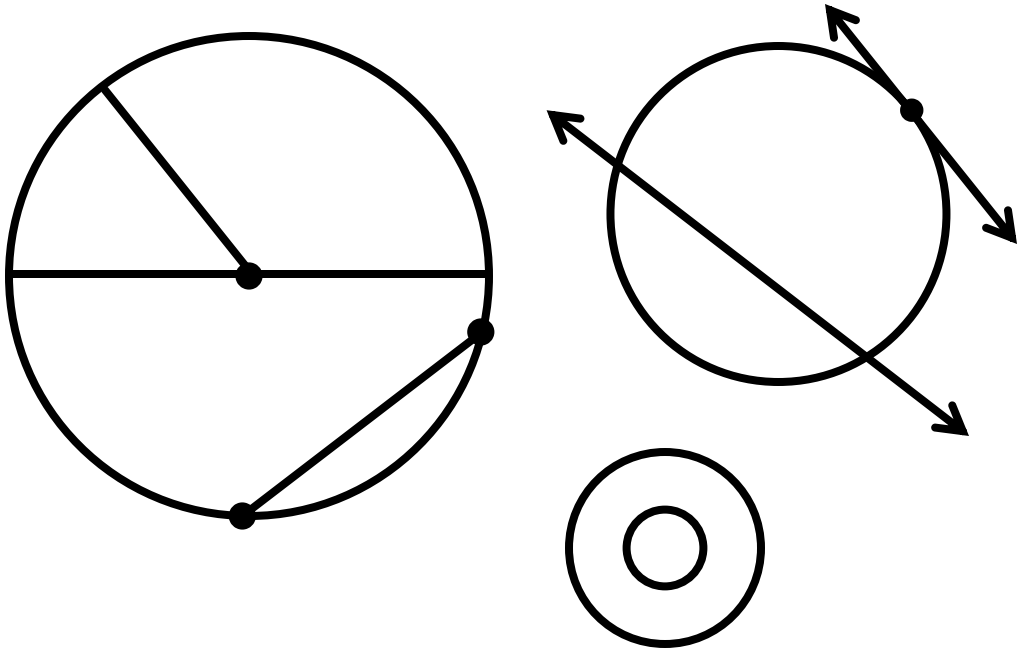
x = 16

Radius

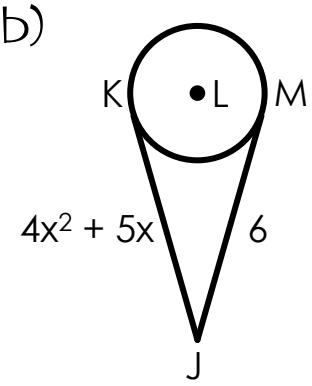
Circles

& Using Properties of

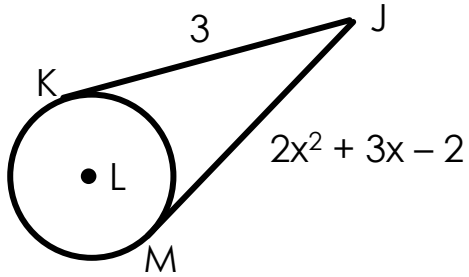
Tangents



b)



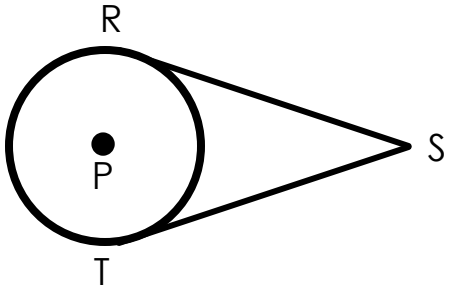
c)



Theorem _____

Theorem:

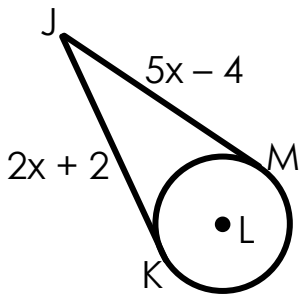
Tangent segments from a common external point are congruent.



If _____ and _____ are tangent segments, then _____ ≅ _____.

Example 2: Find the unknown value. In all examples, $\overline{JK}$ is tangent to $\odot L$ at K and $\overline{JM}$ is tangent to $\odot L$ at M.

a)



Circle:

Center:

Radius:

Chord:

Diameter:

Secant:

Tangent:

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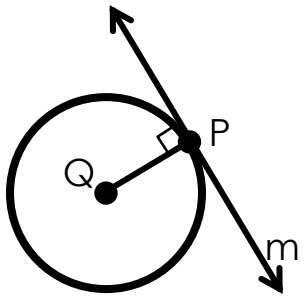
Vocabulary

Theorem :

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

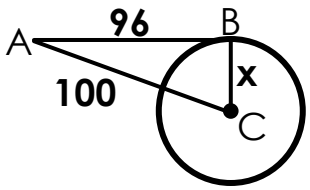


Line _____ is tangent to ⊙Q if and only if _____.

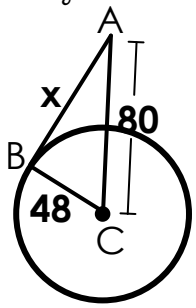
Example 1:

Find the value of x. In all examples $\overline{AB}$ is tangent to ⊙C.

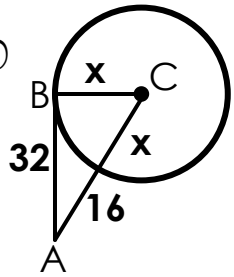
a)



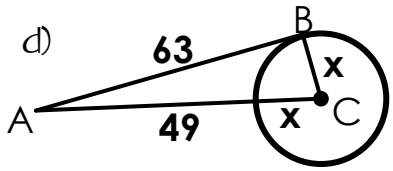
b)



c)



d)

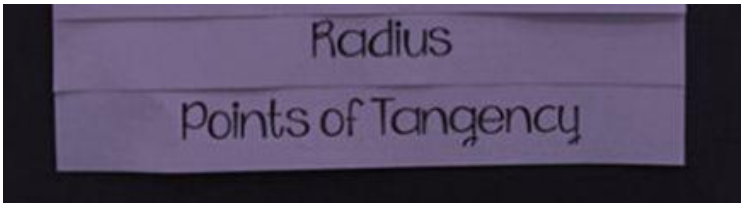


Theorem _____

Directions

Print pages 1 & 2, 3 & 4 (5-8 for the answer key). On my printer, I use the option to print double-sided and to flip along the short side. (NOTE: If you are printing single-sided and then photocopying, you must manually flip every other page). I highly recommend making a single copy, fold and cut to be sure you have copied it properly. Foldable can sometime be tricky!

Hand out both pages to students. I instruct them to flip to the sides that say "Points of Tangency" and "Radius" at the very bottom. I then have them line up these two pages as shown:



Then, have students fold over the top portion of each page so "Vocabulary" lies just above the "Radius" tab, and then title is at the very top. The final product should look like this: