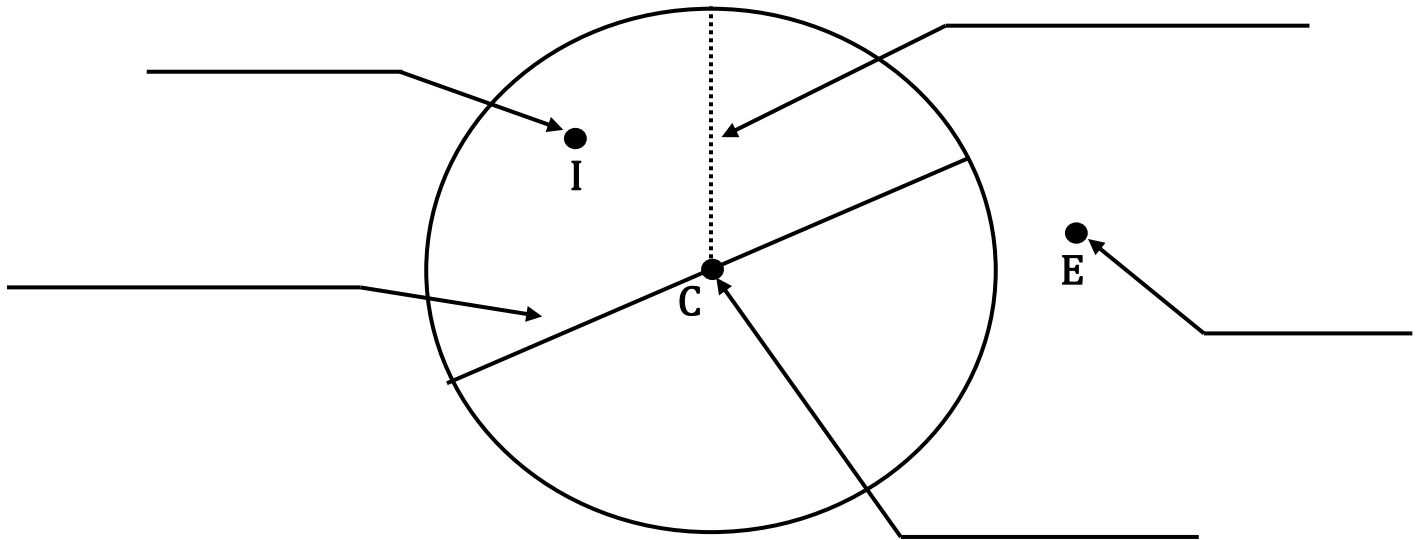
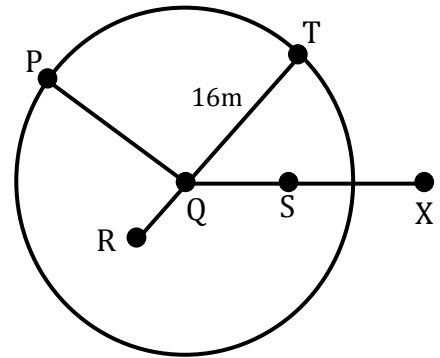


NOTES 10.1 – CIRCLE BASICS



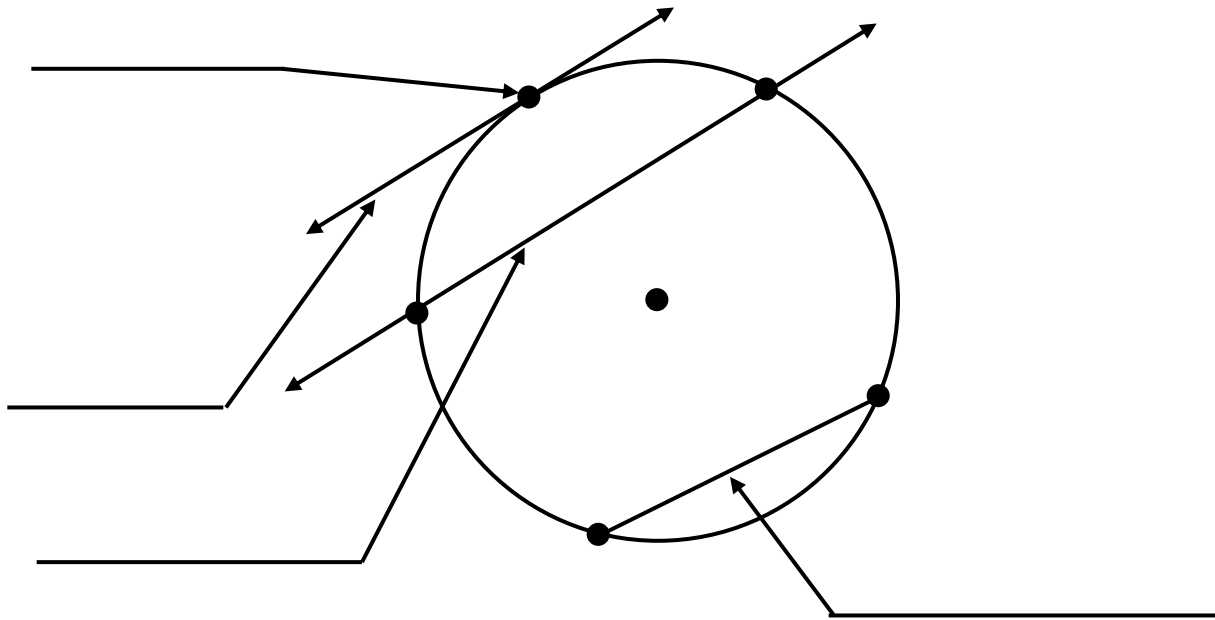
EXAMPLE 1: Q is the center of this circle.



- a) Name the circle: _____
- b) Name all radii shown: _____
- c) What is the length of any radius of this circle? _____
- d) What would be the length of any diameter of this circle? _____
- e) Name all of the interior points shown: _____
- f) Name all of the exterior points shown: _____

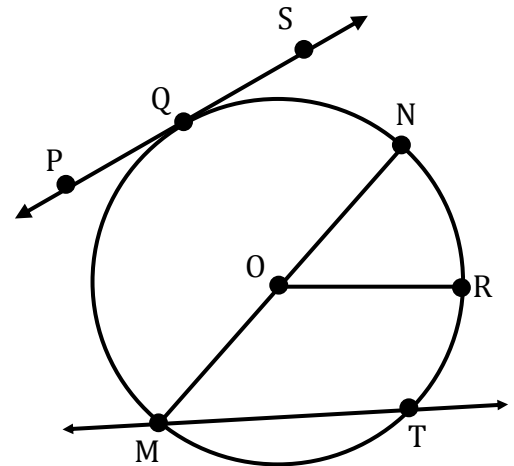
EXAMPLE 2: Calculate the radius or diameter as indicated.

- a) $r = 27 \text{ in.}$ $d =$ _____
- b) $d = 12x$ $r =$ _____
- c) $d = 18.6 \text{ cm}$ $r =$ _____



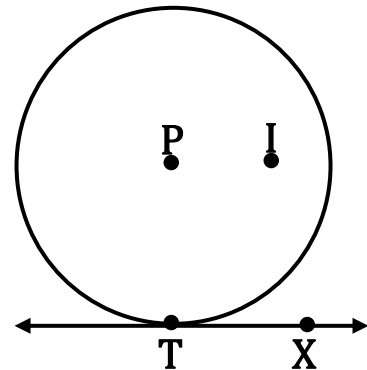
EXAMPLE 3: Name each of the following.

- a) Center: _____
- b) All Radii: _____
- c) All Chords: _____
- d) All Secants: _____
- e) Diameter: _____
- f) Tangent: _____
- g) Point of Tangency: _____



EXAMPLE 4: Name the following.

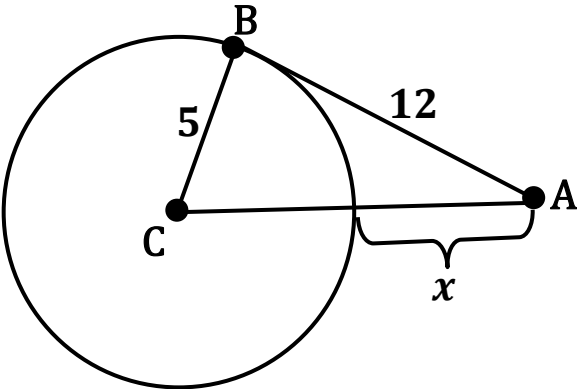
- a) Tangent: _____
- b) Point of tangency: _____
- c) Point in the interior: _____
- d) Point in the exterior: _____



Notes 10.1 – Circle Basics (Continued)

THEOREM: If a line is tangent to a circle, then it is PERPENDICULAR to the radius drawn to the point of tangency.

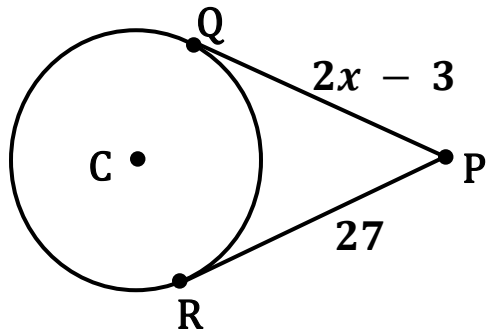
EXAMPLE 5: Refer to $\odot C$ with tangent \overline{AB} . Find 'x'.



$x = \underline{\hspace{2cm}}$

THEOREM: If two segments from the same EXTERIOR point are tangent to a circle, then they are congruent.

EXAMPLE 6: Find the value of 'x'.

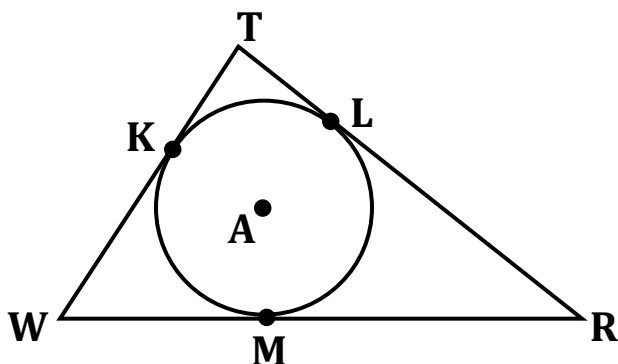


$x = \underline{\hspace{2cm}}$

When circles are inscribed in polygons, the polygons are said to be CIRCUMSCRIBED polygons.

In such polygons, each side is TANGENT to the circle.

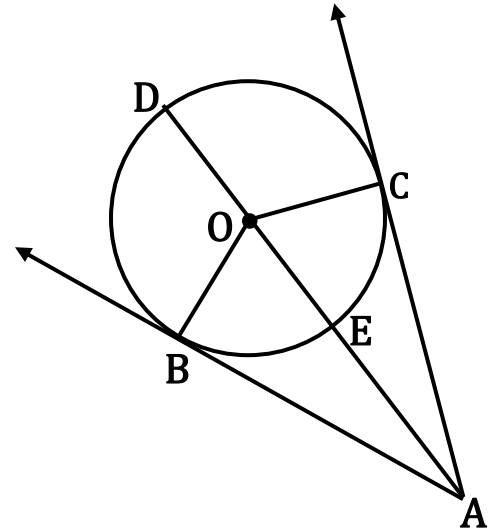
EXAMPLE 7: $\triangle TRW$ is circumscribed about $\odot A$. If the perimeter of $\triangle TRW$ is 50, $TK = 3$, and $WM = 9.5$, find TR.



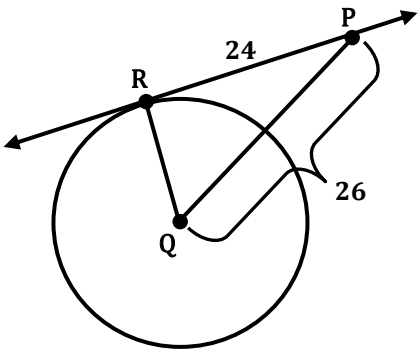
TR = $\underline{\hspace{2cm}}$

EXAMPLE 8: Given that $OA = 12$, $OB = 6$, and $m\angle BAC = 60^\circ$, find the following.

- a) $OC =$ _____
- b) $ED =$ _____
- c) $AB =$ _____
- d) $AC =$ _____
- e) $m\angle BAO =$ _____
- f) $m\angle OCA =$ _____
- g) $m\angle AOC =$ _____
- h) $m\angle EOC =$ _____
- i) $EA =$ _____

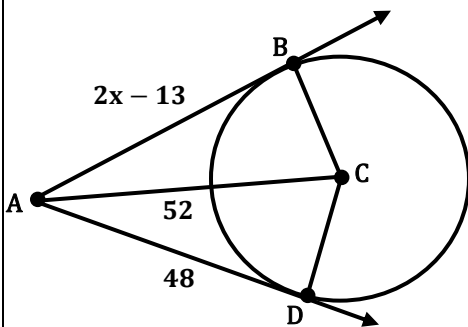


EXAMPLE 9: In the figure below, \overleftrightarrow{RP} is tangent to circle Q at R. Find the radius of circle Q.



$r =$ _____

EXAMPLE 10: Find the indicated values.



$x =$ _____

$m\angle ABC =$ _____

$BC =$ _____

Diameter of circle C = _____