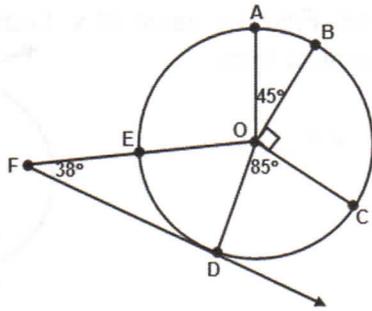


Tangents and Inscribed Angles

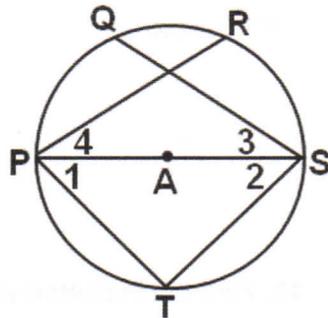
1. Ray FD is a tangent to circle O. Based on the angle measures given, find the measure of each of the following:

- a) $\widehat{AB} =$ _____
- b) $\widehat{AD} =$ _____
- c) $\widehat{AC} =$ _____
- d) $\widehat{BC} =$ _____
- e) $\widehat{ADC} =$ _____
- f) $\widehat{ACD} =$ _____
- g) $\widehat{ED} =$ _____
- h) $\widehat{AE} =$ _____
- i) $m\angle DOF =$ _____
- j) $m\angle EOA =$ _____



2. In circle A, $m\angle 1 = (6x + 11)^\circ$, $m\angle 2 = (9x + 19)^\circ$, $m\angle 3 = (4y - 25)^\circ$, $m\angle 4 = (3y - 9)^\circ$, and $\widehat{PQ} \cong \widehat{RS}$. Find $m\angle 1$, $m\angle 2$, $m\angle 3$, and $m\angle 4$.

- $m\angle 1 =$ _____
- $m\angle 2 =$ _____
- $m\angle 3 =$ _____
- $m\angle 4 =$ _____



3. Define and find the value of the central angle, the inscribed angle, and the arc associated with both.

Central angle:

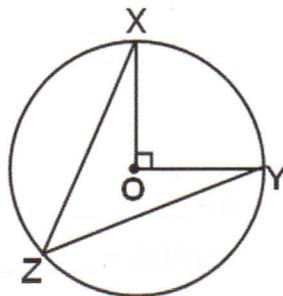
- name _____
- measure _____

Inscribed angle:

- name _____
- measure _____

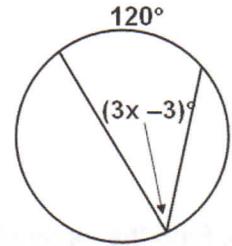
Arc:

- name _____
- measure _____



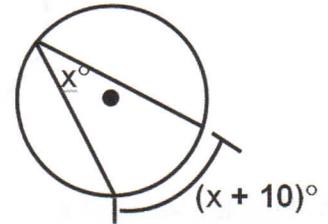
4. Find the value of x.

$x =$ _____



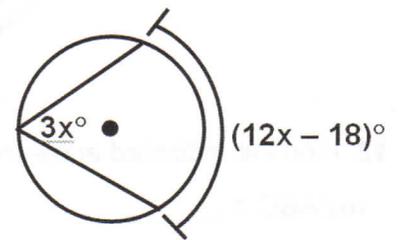
5. Find the value of x.

$x =$ _____



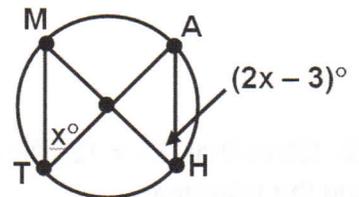
6. Find the value of x.

$x =$ _____



7. Find the value of x.

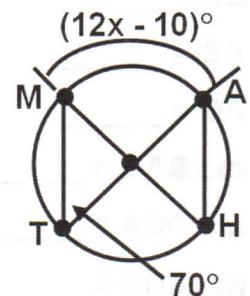
$x =$ _____



8. Find the value of x and \widehat{MA} .

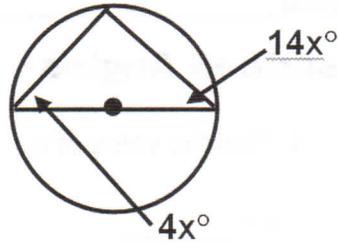
$x =$ _____

$\widehat{MA} =$ _____



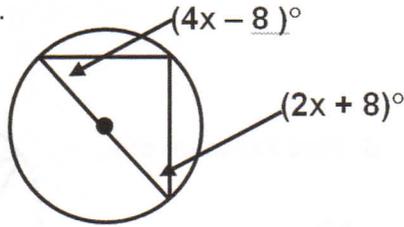
9. Find the value of x .

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



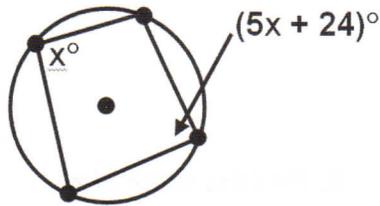
10. Find the value of x .

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



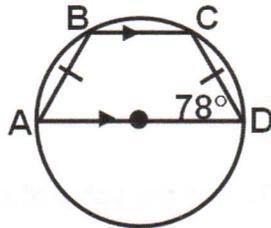
11. Find the value of x .

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



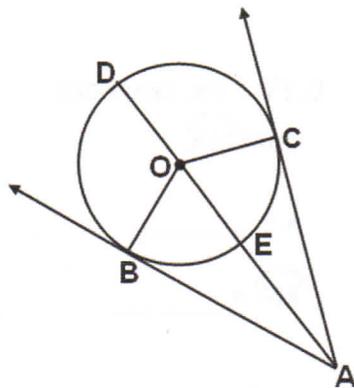
12. Find the indicated angle measures.

- $m\angle ABC = \underline{\hspace{2cm}}$
- $m\angle BCD = \underline{\hspace{2cm}}$
- $m\angle BAD = \underline{\hspace{2cm}}$



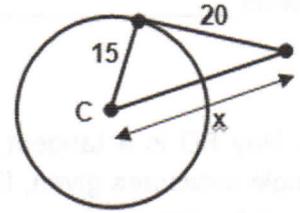
13. Given that $OA = 12$, $OB = 6$ and $m\angle BAC = 60^\circ$, find the following.

- a) $OC = \underline{\hspace{2cm}}$
- b) $ED = \underline{\hspace{2cm}}$
- c) $AB = \underline{\hspace{2cm}}$
- d) $AC = \underline{\hspace{2cm}}$
- e) $m\angle BAO = \underline{\hspace{2cm}}$
- f) $m\angle OCA = \underline{\hspace{2cm}}$
- g) $m\angle AOC = \underline{\hspace{2cm}}$
- h) $m\angle EOC = \underline{\hspace{2cm}}$
- i) $EA = \underline{\hspace{2cm}}$



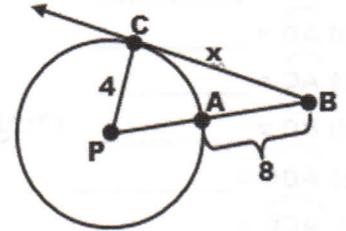
14. Find the value of x .

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



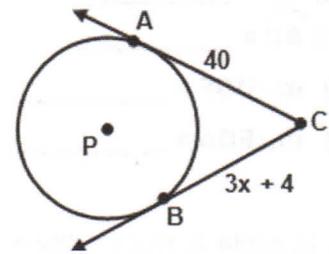
15. Find the value of x . Leave answer in simplified radical form.

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



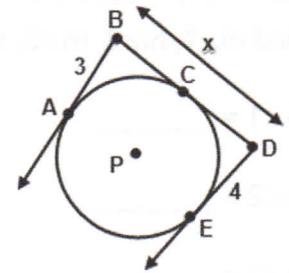
16. Find the value of x .

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



17. Find the value of x .

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



18. Find the indicated values.

- $x = \underline{\hspace{2cm}}$
- $m\angle ABC = \underline{\hspace{2cm}}$
- $BC = \underline{\hspace{2cm}}$
- diameter = $\underline{\hspace{2cm}}$

