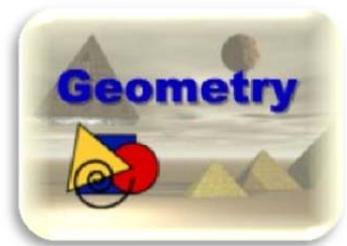


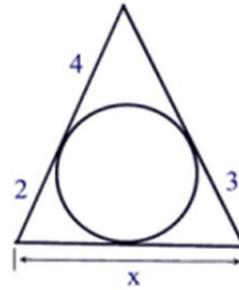
Circles

Name _____



1. In the diagram at the right, the segments shown are tangent to the circle. Find the value of x .

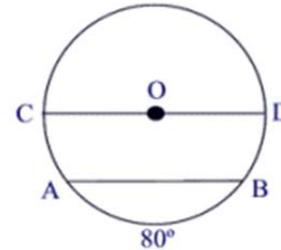
[1] 5 [2] 6 [3] 7 [4] 9



1. _____

2. Given: Circle O with diameter \overline{CD} , $\overline{AB} \parallel \overline{CD}$ and $m\widehat{AB} = 80^\circ$. Find $m\widehat{CA}$.

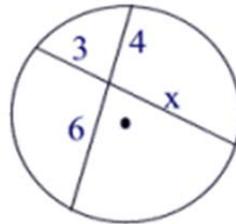
[1] 50 [2] 60 [3] 80 [4] 100



2. _____

3. Given the circle at the right with two intersecting chords. Find the length represented as x .

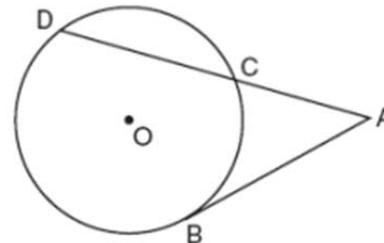
[1] 2 [2] 6 [3] 8 [4] 10



3. _____

4. In the accompanying diagram, tangent \overline{AB} and secant \overline{ACD} are drawn to circle O from point A , $AB = 6$ and $AC = 4$. Find AD .

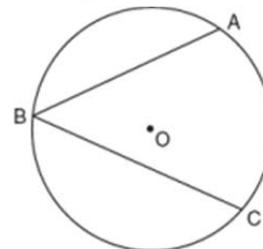
[1] 5 [2] 9 [3] 10 [4] 13



4. _____

5. In the accompanying diagram of circle O , $m\angle ABC = 2x$ and $m\widehat{AC} = x + 60$. Find the value of x .

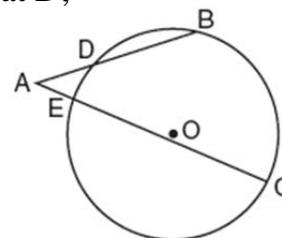
[1] 20 [2] 40 [3] 60 [4] 80



5. _____

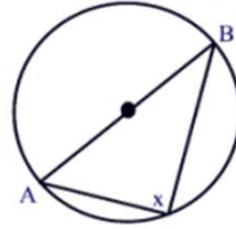
6. In the diagram at the right, secant \overline{AB} intersects circle O at D , secant \overline{AC} intersects circle O at E , $AE = 4$, $AC = 24$, and $AB = 16$. Find AD .

[1] 4 [2] 5 [3] 6 [4] 10



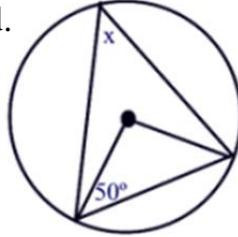
6. _____

7. Given the circle at the right with diameter \overline{AB} , find x .
 [1] 30° [2] 45° [3] 60° [4] 90°



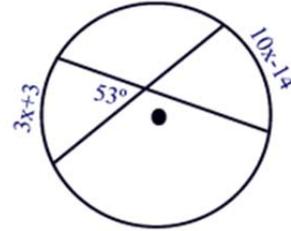
7. _____

8. Given a circle with the center indicated. Find x .
 [1] 100 [3] 50
 [2] 80 [4] 40



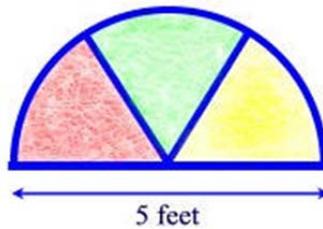
8. _____

9. Two chords intersect within a circle to form an angle whose measure is 53° . If the intercepted arcs are represented by $3x + 3$ and $10x - 14$, find the measure of larger of these two arcs.
 [1] 9 [2] 13 [3] 30 [4] 76



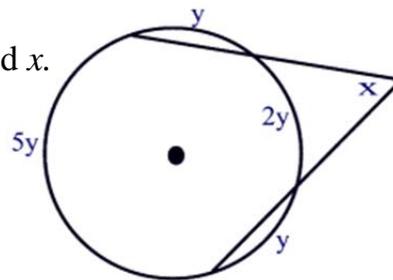
9. _____

10. A cathedral window is built in the shape of a semicircle. If the window is to contain three stained glass sections of equal size, what is the area of each stained glass section? Express answer to the nearest square foot.
 [1] 1 sq. ft. [3] 13 sq. ft.
 [2] 3 sq. ft. [4] 26 sq. ft.



10. _____

11. Given the two secants shown in the diagram at the right, find the number of degrees in the angle labeled x .
 [1] 40°
 [2] 60°
 [3] 80°
 [4] 140°

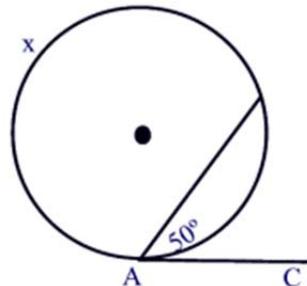


11. _____

12. The number of common tangents that can be drawn for two externally tangent circles is [1] 1 [2] 2 [3] 3 [4] 4

12. _____

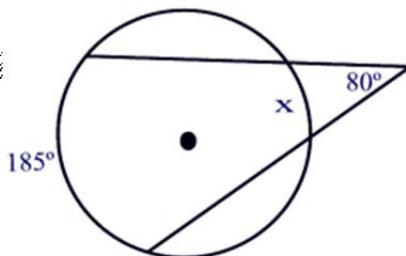
13. Given tangent \overline{AC} to the circle shown at the right. Find the size of the arc designated by x .
 [1] 25
 [2] 50
 [3] 100
 [4] 260



13. _____

14. Given a circle with two secants as shown at the right. Find the value of the arc designated by x .

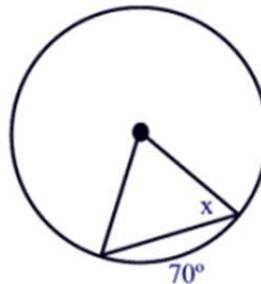
- [1] 105 [3] 45
[2] 80 [4] 25



14. _____

15. Given the circle at the right with the indicated center. Find the measure of the angle designated by x .

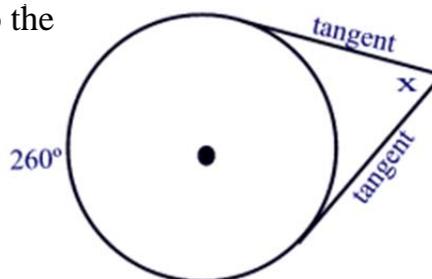
- [1] 35
[2] 55
[3] 70
[4] 72.5



15. _____

16. Given the circle at the right with two tangents to the circle from a common external point. Find the measure of the angle designated by x .

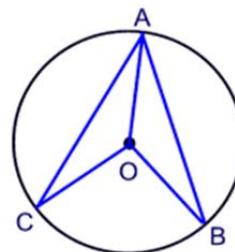
- [1] 60
[2] 80
[3] 85
[4] 130



16. _____

17. Given: $\overline{AB} \cong \overline{AC}$ in circle O at the right. Which method for proving congruent triangles can be used to prove that $\triangle ACO \cong \triangle ABO$?

- [1] Side-Side-Side (SSS) [3] Angle-Side-Angle (ASA)
[2] Side-Angle-Side (SAS) [4] All of the above.



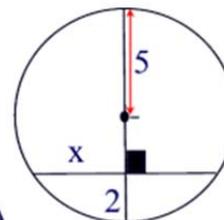
17. _____

18. In the same circle, or congruent circles, congruent central angles have congruent arcs.
[1] TRUE [2] FALSE

18. _____

19. Given the circle at the right with designated center, designated perpendicular, and radius 5. Find length of segment labeled x .

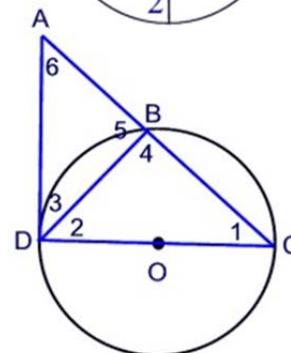
- [1] 4 [2] 5 [3] 8 [4] $\sqrt{10}$



19. _____

20. Given: tangent \overline{AD} , diameter \overline{CD} , secant \overline{AC} in circle O shown at the right. Which two sets of congruent angles can be used to prove $\triangle ADC \sim \triangle DBC$?

- [1] $\angle 1 \cong \angle 1$ and $\angle ADC \cong \angle 5$
[2] $\angle 1 \cong \angle 1$ and $\angle ADC \cong \angle 4$
[3] $\angle 1 \cong \angle 6$ and $\angle ADC \cong \angle 4$
[4] $\angle 2 \cong \angle 6$ and $\angle ADC \cong \angle 4$



20. _____