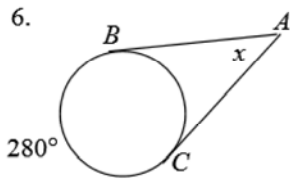
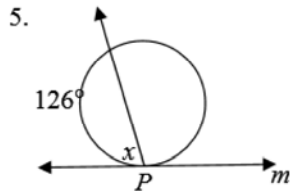
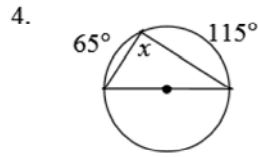
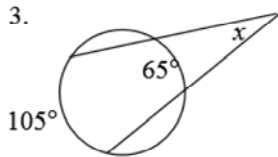
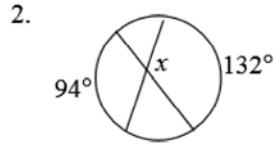
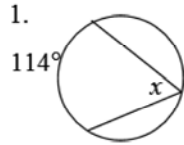


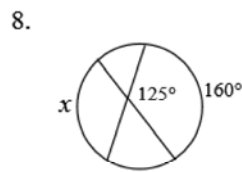
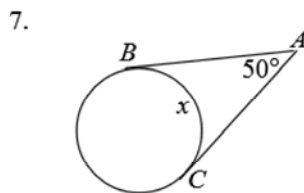
Show all work. Round answers to the nearest tenth when necessary.

For problems 1 – 8, find x .



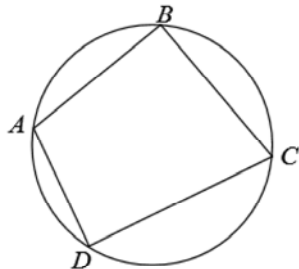
Line m is tangent to the circle at point P .

Segments AB and AC are tangent to the circle.



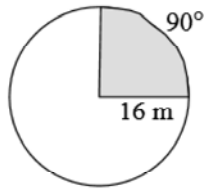
Segments AB and AC are tangent to the circle.

9. $ABCD$ is an inscribed quadrilateral. Arc $BCD = 208^\circ$. Find $m\angle A$ and $m\angle C$

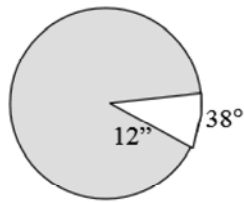


Find the shaded area. Use calculator π .

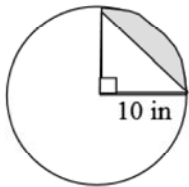
10.



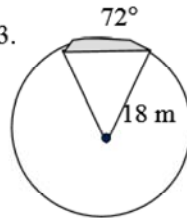
11.



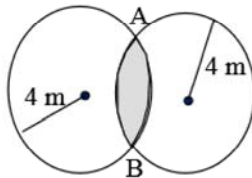
12.



13.

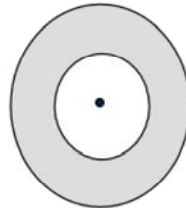


14. $AB = 6$ m



15.

diameter of inner circle = 4 cm
diameter of outer circle = 10 cm



16. Find the center and radius of the following.

a) $(x-2)^2 + (y+3)^2 = 49$

16. a. C (__, __) r = ____

b) $(x+2)^2 + y^2 = 15$

b. C (__, __) r = ____

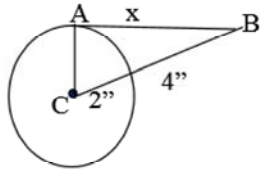
c) $x^2 + y^2 - 10x = 11$

c. C (__, __) r = ____

d) $x^2 + y^2 + 8x + 12y = 12$

d. C (__, __) r = ____

17. \overline{AB} is tangent to circle C. Find x .



18. Find the radius if $AB = 12$ cm and chord \overline{AB} is 8 cm from the center of the circle.

Draw a sketch to for each problem.

19. chord

26. concentric circles

20. tangent

27. secant

21. semi-circle

28. common internal tangent

22. major arc

29. inscribed angle

23. diameter

30. sector of a circle

24. central angle

31. sphere

25. minor arc

32. segment of a circle

33. Find x . Show all work. Round answers to the nearest tenth when necessary.

