

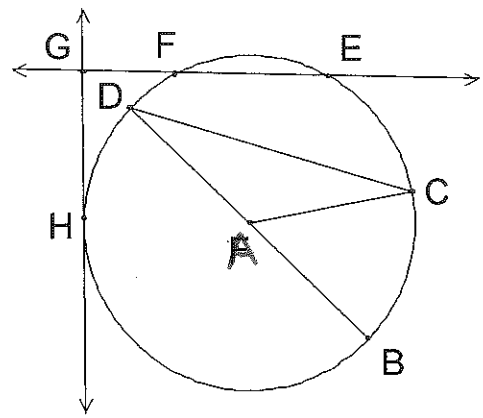
Chapter 10 Review

Geometry

Refer to the diagram at the right to answer questions 1 through 16.

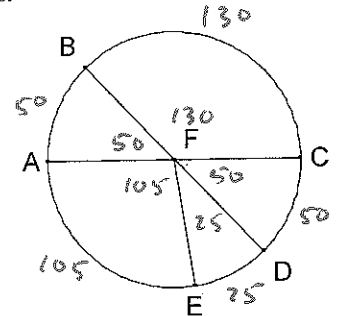
1. Name the center of the circle. A
2. Name *three* radii of the circle. \overline{DA} \overline{CA} \overline{BA}
3. Name all diameters. \overline{DB}
4. Name all chords. \overline{DC} \overline{DB} \overline{FE}
5. Name a tangent. \overleftrightarrow{GH}
6. Name a secant. \overleftrightarrow{FE}
7. If $FC = 7$ cm, find BD . 14 cm

Change center to Point A



Use $\odot F$ to answer questions 8 to 16. In $\odot F$, $m\angle BFA = 50$, $m\widehat{DE} = 25$, \overline{AC} and \overline{BD} are diameters.

8. $m\angle DFE =$ 25
9. $m\angle AFE =$ 105
10. $m\widehat{DC} =$ 50
11. $m\widehat{ECA} =$ 255
14. $m\widehat{AB} =$ 50
15. $m\angle EFC =$ 75
16. $m\widehat{BC} =$ 130

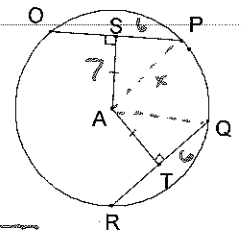


Use the diagram to find the indicated measure for question 17.

17. Find the length of radius AP if $RQ = 12$, and $SA = 7$. $\sqrt{85} \approx 9.2$

$$6^2 + 7^2 = x^2$$

$$36 + 49 = x^2$$



18. Suppose a chord of a circle is 14 inches long and is 16 inches from the center of the circle. Find the length of the radius.

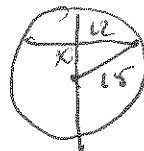
$$16^2 + 7^2 = r^2$$



ANS: $\sqrt{305} \approx 17.5$ in

19. Suppose the diameter of a circle is 30 centimeters long and a chord is 24 centimeters long. Find the distance between the chord and the center of the circle.

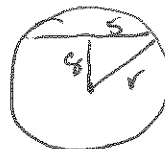
$$x^2 + 12^2 = 15^2$$



ANS: 9 cm

20. Suppose a chord of a circle is 10 inches long and the distance between the chord and the center of the circle is 8 inches. Find the length of the radius of the circle.

$$5^2 + 8^2 = r^2$$



ANS: $\sqrt{89} \approx 9.4$ in

Questions 21-33. Use $\odot U$ to find the measures below.

21. $m\widehat{XY} = 100$

22. $m\widehat{WV} = 80$

23. $m\widehat{WX} = 50$

24. $m\angle XVY = 50$

25. $m\angle WYV = 40$

26. $m\angle VXY = 65$

27. $m\angle YWV = 65$

28. $m\angle XYW = 25$

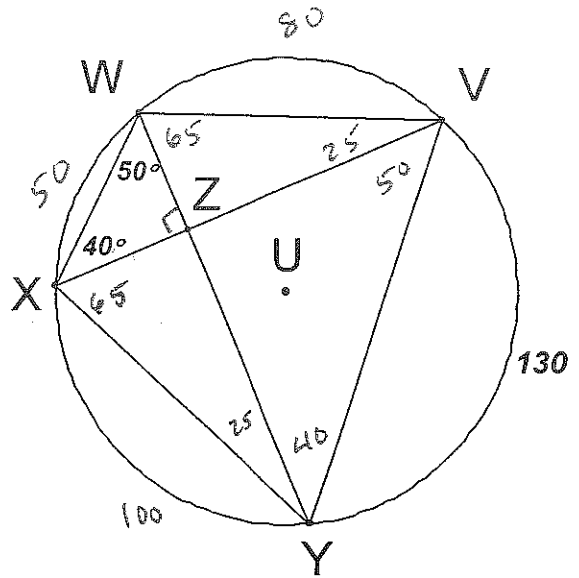
29. $m\angle WZX = 90$

30. $m\angle XZY = 90$

31. $m\widehat{XV} = 130$

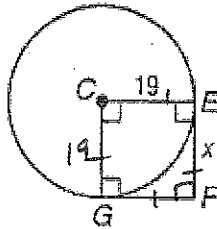
32. $m\widehat{XYV} = 230$

33. $m\widehat{WVY} = 210$

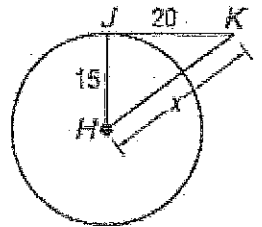


For questions 34 to 50 find the value of x . Assume that segments that appear to be tangent are tangent.

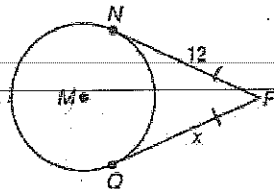
34. 19



35. 25

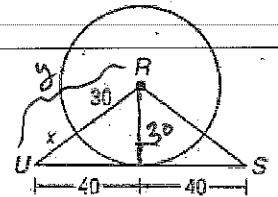


36. 12



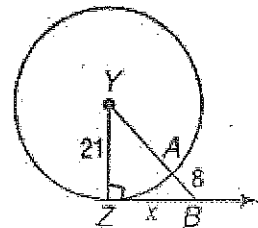
37. 20

$30^2 + 40^2 = y^2$
 $50 = y$



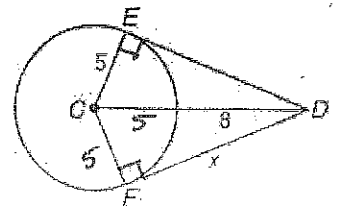
38. $x \approx 19.4$

$8^2 + x^2 = 21^2$
 $64 + x^2 = 441$
 $x^2 = 377$



39. 12

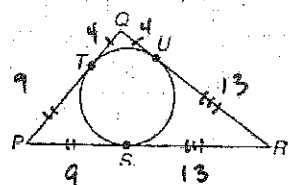
$5^2 + x^2 = 13^2$
 $25 + x^2 = 169$
 $x^2 = 144$
 $x = 12$



40. Perimeter: 52

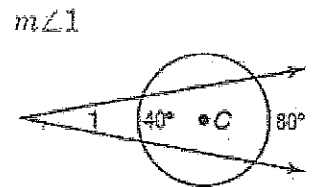
$P = 2 \cdot 4 + 2 \cdot 9 + 2 \cdot 13$

$QT = 4, PT = 9, SR = 13$



41. 20

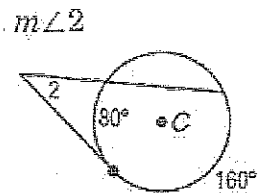
$m\angle I = \frac{1}{2}(80 - 40)$
 $= \frac{1}{2}(40)$
 $= 20$



42. 40

$$m\angle 2 = \frac{1}{2}(160 - 80)$$

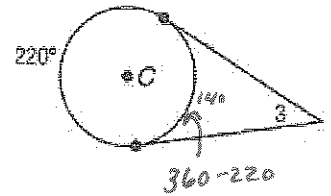
$$= \frac{1}{2}(80)$$



43. 40 $m\angle 3$

$$m\angle 3 = \frac{1}{2}(220 - 140)$$

$$= \frac{1}{2}(80)$$

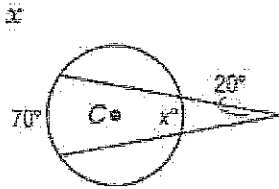


44. 30

$$20 = \frac{1}{2}(70 - x)$$

$$40 = 70 - x$$

$$-30 = -x \quad x = 30$$



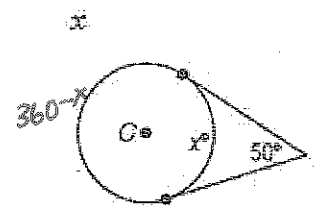
45. 130

$$50 = \frac{1}{2}(360 - x - x)$$

$$100 = 360 - 2x$$

$$-260 = -2x$$

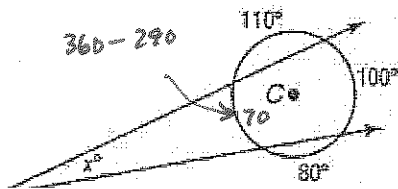
$$130 = x$$



46. 15

$$x = \frac{1}{2}(100 - 70)$$

$$x = \frac{1}{2}(30)$$

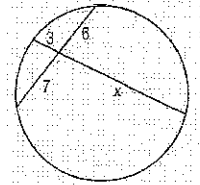


47. 14

$$3(x) = 6(7)$$

$$3x = 42$$

$$x = 14$$



48. 6

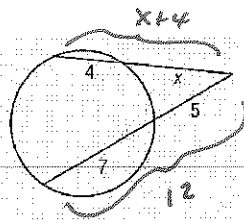
$$12(5) = (x+4)(x)$$

$$60 = x^2 + 4x$$

$$0 = x^2 + 4x - 60 \quad \leftarrow \text{Q.F.}$$

$$0 = (x+10)(x-6)$$

$$x = -10 \quad x = 6$$



49. 6

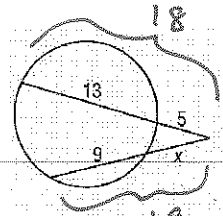
$$18(5) = (x+9)x$$

$$90 = x^2 + 9x$$

$$0 = x^2 + 9x - 90 \quad \leftarrow \text{Q.F.}$$

$$0 = (x+15)(x-6)$$

$$x = -15 \quad x = 6$$



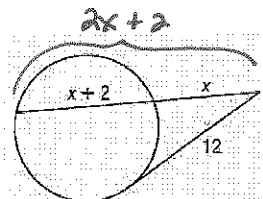
50. 8

$$(2x+2)x = 12^2$$

$$2x^2 + 2x = 144$$

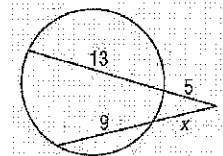
$$2x^2 + 2x - 144 = 0$$

$$x^2 + x - 72 = 0$$



$$(x+9)(x-8) = 0$$

$$x = -9 \quad x = 8$$

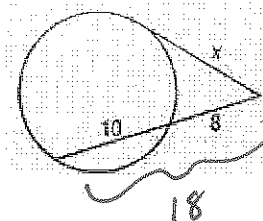


50. 12

$$18(8) = x^2$$

$$144 = x^2$$

$$x = 12$$



51. 10

$$(x+8)(2) = 6^2$$

$$2x + 16 = 36$$

$$2x = 20$$

$$x = 10$$

