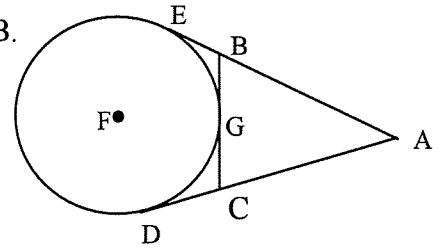


Geometry Honors Review
Chapters 9 & 11

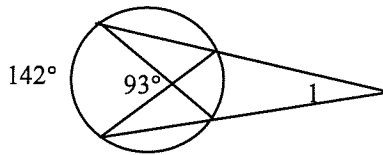
For questions 1-4, answer always, sometimes, or never based on 2 concentric circles.

1. There _____ exists a line that is tangent to one circle and is secant to the other circle.
2. There _____ exists a line that is a tangent to both circles.
3. A line that is secant to one circle is _____ secant to the other circle.
4. A line that intersects the inside of the smaller circle is _____ a secant for both circles.

5. \overline{AE} and \overline{AD} are tangents to circle F. $AE = 12$, $FE = 5$. Find AB.

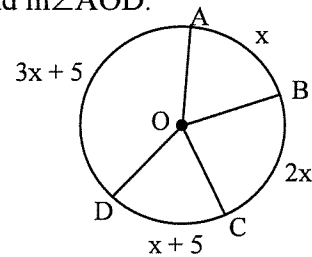


6. Find the measure of $\angle 1$.



7. \overline{OP} is a common internal tangent of two circles that are 7 units apart. If the radii of the circles are 4 and 3, find \overline{OP} .

8. The arc measures are given in the figure. Find $m\angle AOB$ and $m\angle AOD$.

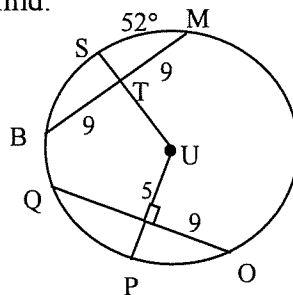


9. Use the following diagram to find:

a. $m\widehat{OP}$

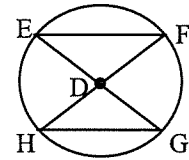
b. UT

c. $m\widehat{OQ}$

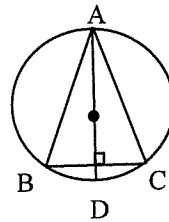


10. \overline{WX} and \overline{YZ} are the same distance from the center of a circle. If $WX = 5x - 9$ and $YZ = 2x + 12$, find the length of each chord.

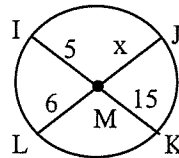
11. Find $m\angle FHG$, if $m\angle FED = 3x + 20$, $m\angle EFH = 5x + 30$, and $m\angle EGH = 7x + 10$.



12. Given: $\overline{AD} \perp \overline{BC}$, \overline{AD} is a diameter
 Prove: $\triangle ABC$ is isosceles

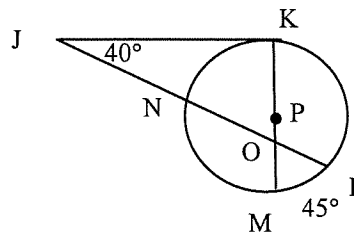


13. If $IM = 5$, $MK = 15$, $LM = 6$, find x .



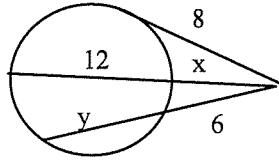
14. In circle P, \overline{JK} is a tangent. $m\widehat{ML} = 45^\circ$, $m\angle KJL = 40^\circ$. Find each measure.

- $m\widehat{NK}$
- $m\widehat{NM}$
- $m\angle KOL$

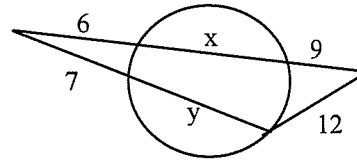


15. Solve for x and y.

a.



b.



16. One diagonal of a rhombus is 8 inches long and its area is 176 sq. in. Find the length of a side of the rhombus.

17. Two regular hexagons have sides in the ratio of 12:17. Find the ratio of their areas.

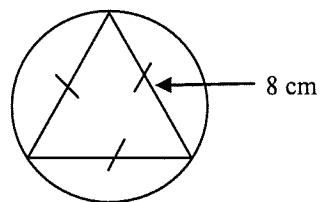
18. If the area of a sector is one-fifth the area of a circle, find the measure of its central angle.

19. Find the area of a circle with a circumference of 10π .

20. Find the area of a 30° - 60° - 90° triangle with an hypotenuse of 30 cm.

21. Find the area of a regular hexagon whose apothem measures 8 in.

22. Find the circumference of the circle.



23. Find the area of a regular decagon with a radius of 4.