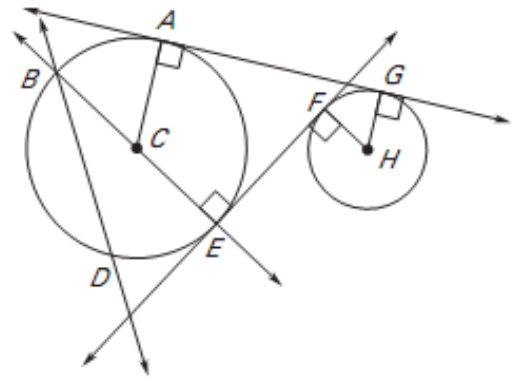
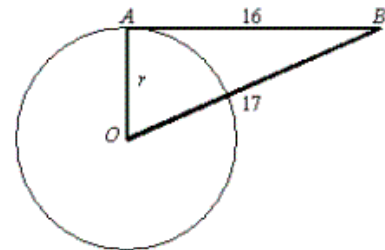


Please give the best name for the segment, line, or point using the figure below.

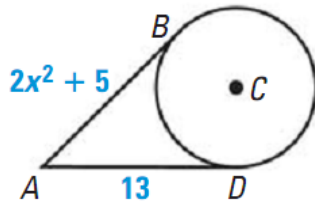
1. H _____
2. E _____
3. \overline{HF} _____
4. \overline{AG} _____
5. A _____
6. \overline{BD} _____
7. \overline{BD} _____
8. \overline{BE} _____
9. \overline{FE} _____
10. \overline{AC} _____



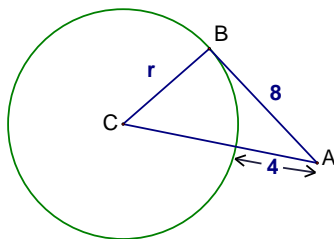
11. Given that \overline{AB} is tangent to $\odot O$ and $BO = 17$, please solve for the radius r .



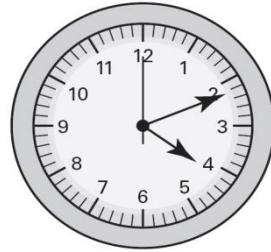
12. Given \overline{AB} and \overline{AD} are tangent to $\odot O$, please find the value(s) of x .



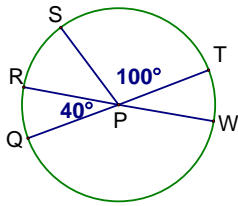
13. Given that \overline{AB} is tangent to $\odot C$, please find the length of radius r .



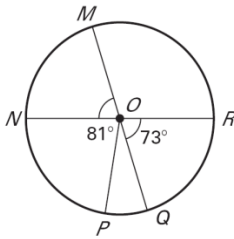
14. What is the measure of the minor arc created when the second hand moves from the 12 to the 5 on a clock?



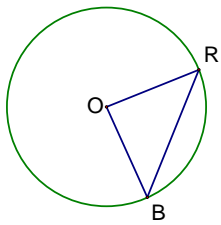
15. Please find $m\widehat{QW}$.



16. Please find $m\widehat{PRM}$.

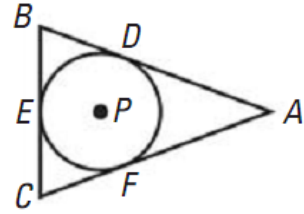


17. The measure of arc \widehat{RB} is 90° . If the radius of $\odot O = 6$, then what is the length of \overline{RB} ?

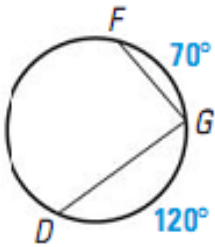


18. On $\odot P$, $m\widehat{AB} = 60^\circ$, $m\widehat{BC} = 25^\circ$, $m\widehat{CD} = 70^\circ$, and $m\widehat{DE} = 20^\circ$. Assuming none of the arcs overlap, please find $m\widehat{AE}$.

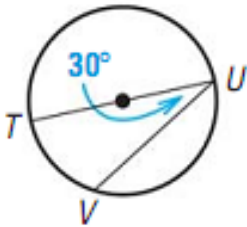
19. In the diagram at the right, $AB = AC = 12$, $BC = 8$, and all three segments are tangent to $\odot P$. Please find the length of the radius for $\odot P$.



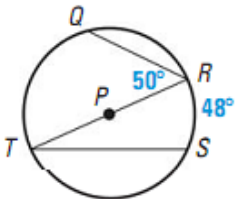
20. Please find $m\angle G$.



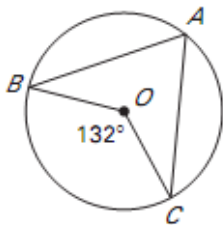
21. Please find $m\angle VUT$.



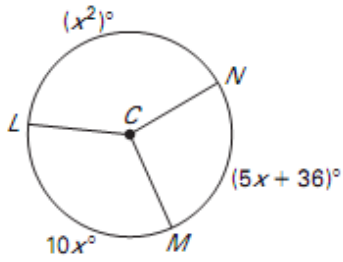
22. Please find $m\angle QR$.



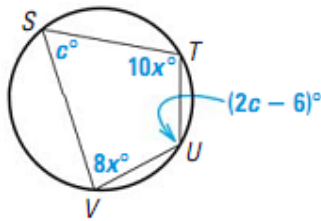
23. Please find $m\angle A$.



24. Please solve for x.



25. Please find the sum of c and x.



Answer Key

1. Center 2. Point of Tangency 3. Radius 4. Common external tangent 5. Point of tangency
 6. Chord 7. Secant 8. Diameter 9. Common internal tangent 10. Radius 11. 5.7 12. ± 2
 13. 6 14. 150° 15. 140° 16. 206° 17. $6\sqrt{2}$ 18. 185° 19. $2\sqrt{2}$ 20. 85° 21. 300°
 22. 80° 23. 66° 24. 12 25. 72