

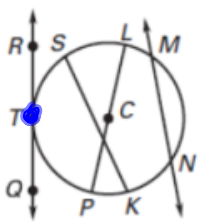
SM2 12.1--Circle Vocabulary, Arc and Angle Measures

Fill in the blanks.

1. A _____ is a line in the plane of a circle that intersects the circle in exactly one point, called a point of _____.
2. A _____ is a segment whose endpoints are the center of a circle and a point on the circle.
3. A _____ is a segment whose endpoints are points on the circle.
4. A _____ is a chord that passes through the center of a circle.
5. A _____ is a line that intersects a circle in two points.
6. A _____ angle is the angle that is formed when 2 radii meet at the center of a circle.
7. An _____ angle is an angle whose vertex is on a circle and whose sides contain chords of the circle.

These answers can be found in your finished notes

Use the diagram below for problems 8-13.



8. T is a point of t . 9. Name a secant. _____
10. \overline{SK} is a c . 11. Name a tangent. _____
12. \overline{CL} is a r . 13. Name a diameter. _____

8. finish the word that starts with t .

10. SK is a c (5 letters)

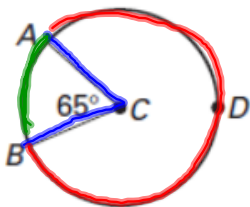
12. \overline{CL} is the segment that goes to the center from a point on the circle. The answer starts with the letter r .

9. a secant is a line that has 2 points on the circle.

11. A tangent line touches the circle in one point.

13. A diameter of a circle is the segment that goes through the center of the circle and has endpoints on the circle

Use the diagram below for problems 14-16.



← how many degrees is it.

14. Name the central angle and find its measure.

Highlighted in blue.

use 3 letters (vertex is middle letter.)

15. Name the minor arc and find its measure.

Highlighted in green (use 2 letters)

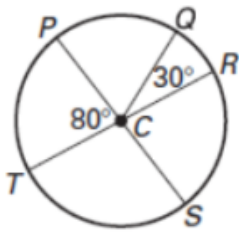
Measure is same as angle measure.

16. Name the major arc and find its measure.

Highlighted in red. (use 3 letters)

Measure is $360 - \text{minor arc measure}$.

In the diagram below, \overline{PS} and \overline{TR} are diameters. Find the requested arc measures.



17. $m\widehat{TS}$
same as $\angle TCS$

18. $m\widehat{PQ}$
same as $\angle PCQ$

19. $m\widehat{TPO}$
add $m\widehat{TP} + m\widehat{PQ}$

20. $m\widehat{TQR}$
Add $m\widehat{TP} + m\widehat{PQ} + m\widehat{QR}$

21. $m\widehat{TRO}$
add $m\widehat{TR} + m\widehat{RQ}$

22. $m\widehat{SRQ}$
add $m\widehat{SR} + m\widehat{RQ}$

Find all angle measures first.

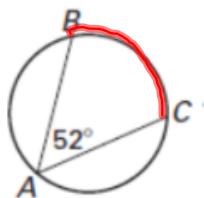
$m\angle PCQ$ is $180^\circ - 80^\circ - 30^\circ$

$m\angle RCS$ is a vertical angle with $\angle PCT$ so they have the same measure (80°)

$m\angle TCS$ is $180^\circ - 80^\circ$

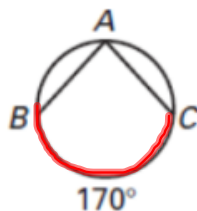
Find the measure of the inscribed angle or the intercepted arc.

23. $m\widehat{BC}$



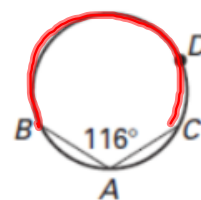
$$m\widehat{BC} = 2(52)$$

24. $m\angle BAC$



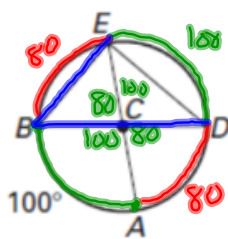
$$m\angle BAC = \frac{1}{2}(170)$$

25. $m\widehat{BDC}$



$$m\widehat{BDC} = 2(116)$$

Use the diagram below to find the requested angle or arc measure. \overline{BD} and \overline{EA} are diameters.



26. $m\angle BCA$
 $\angle BCA$ is a central angle
 measure is same as \widehat{BA}

27. $m\angle BEA$
 $\angle BEA$ is inscribed
 $m\angle BEA = \frac{1}{2} \widehat{BA}$

28. $m\widehat{AD}$
 Same as $\angle ACD$

29. $m\angle ACD$

30. $m\angle AED$

31. $m\widehat{BAD}$
 add $m\widehat{BA} + m\widehat{AD}$

32. $m\angle BED$
 $\angle BED = \frac{1}{2}(180)$

33. $m\widehat{BDA}$
 add $m\widehat{BED} + m\widehat{DA}$