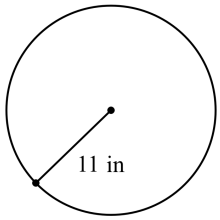
Secondary Math 2H **Name**_____

6.4 Arc Length, Area of Sectors, and Chords

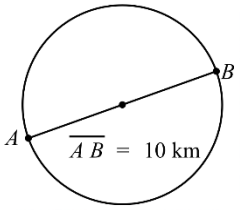
Date_____ **Period**_____

Unless otherwise stated, give an exact answer using π, then give a decimal approximation (using the π button on your calculator) to two decimal places. Make sure you round correctly!!!

1. Find the circumference:

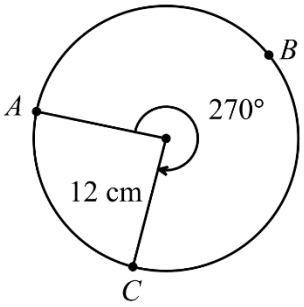


2. Find the Area

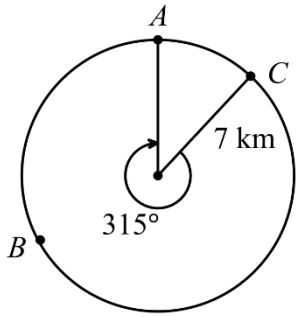


Find the length of each described arc. Make sure you give TWO answers on each question!

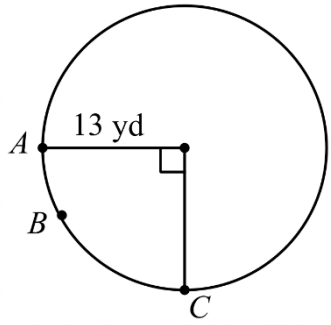
3. $m\overset{\frown}{ABC}$ =



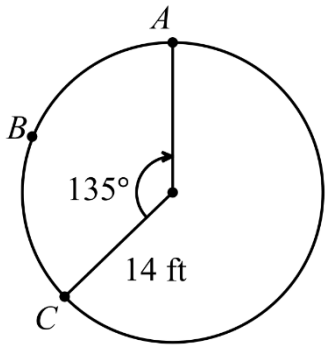
4. $m\overset{\frown}{ABC}$ =



5. $m\overset{\frown}{ABC}$ =



6. $m\overset{\frown}{ABC}$ =

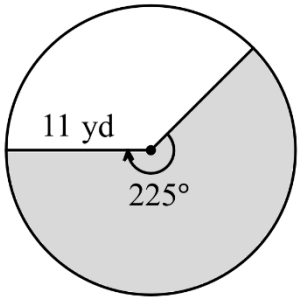


7. $r = 8\,m,\ \theta = 285°$

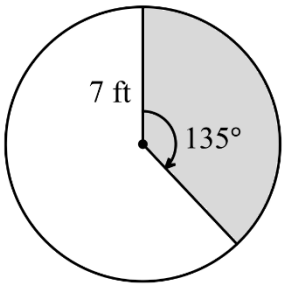
8. $r = 11\,ft,\ \theta = 90°$

Find the area of each described or shaded sector. Make sure you give TWO answers on each question!

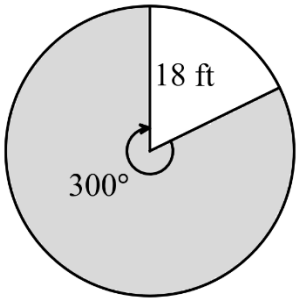
9. Area =



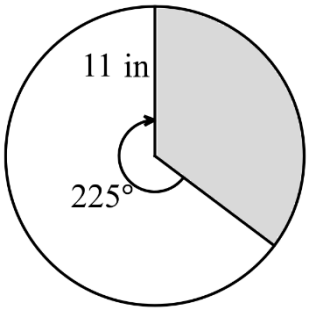
10. Area =



11. Area =



12. Area =

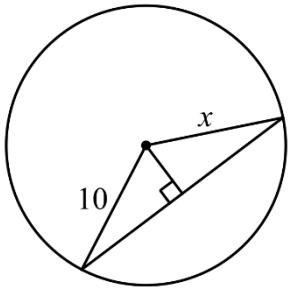


13. $r = 6\,mi,\ \theta = 135°$

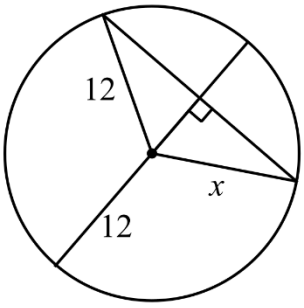
14. $r = 13\,ft,\ \theta = 210°$

Find the value of *x* in each drawing. Round your answer to the nearest hundredth if necessary.

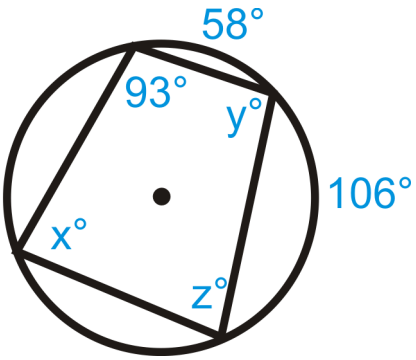
15. x =



16. x =

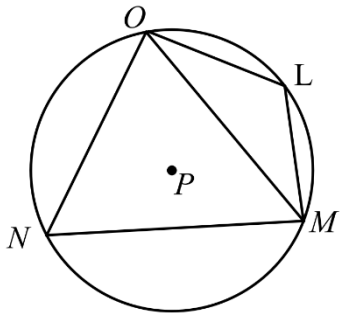


17. Find the values of the missing variables.



$x =$ $y =$ $z =$

18. A quadrilateral is inscribed in circle P.
if $m\angle NML = 80°$ and $m\angle N = 40$
then find $m\angle O$ and $m\angle L$.



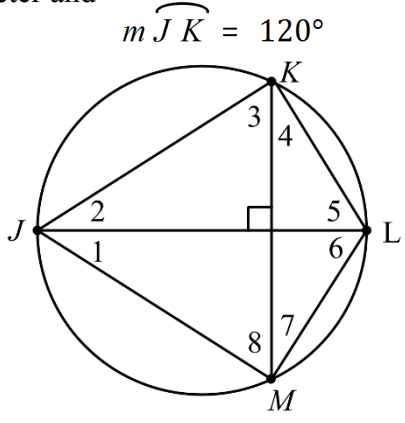
$m\angle O =$

why?

$m\angle L =$

why?

19. Find the measure of each numbered angle for the figure if $\overline{JL}$ is a diameter and $m\overset{\frown}{JK} = 120°$



$m\angle 1 =$

$m\angle 2 =$

$m\angle 3 =$

$m\angle 4 =$

$m\angle 5 =$

$m\angle 6 =$

$m\angle 7 =$

$m\angle 8 =$

20. Find the measure of each numbered angle for the figure if $m\angle R = \frac{1}{2}x$ and $m\angle K = \frac{1}{3}x + 5$

$m\angle 1 =$

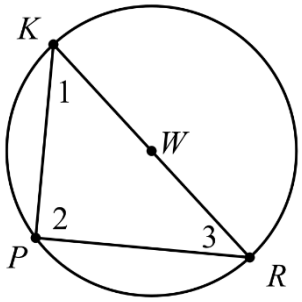
why?

$m\angle 2 =$

why?

$m\angle 3 =$

why?

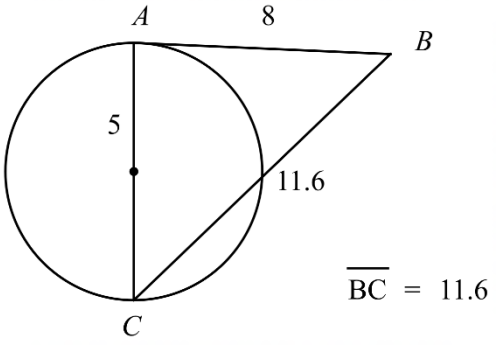


21. Quadrilateral QRST is inscribed in a circle.

If $m\angle Q = 45°$ and $m\angle R = 100°$, find $m\angle S$ and $m\angle T$.

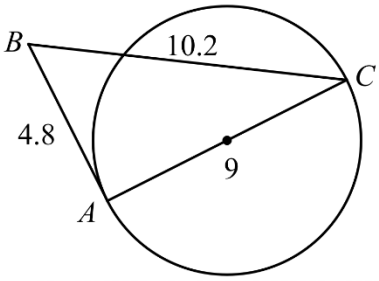
For numbers 28 and 29, determine if line $\overline{AB}$ is tangent to the circle. Give a REASON.

22. Tangent?
Why?



$\overline{BC} = 11.6$

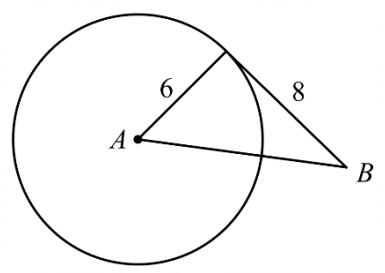
23. Tangent?
Why?



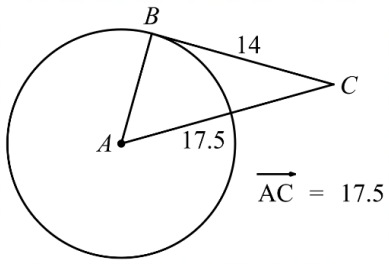
$\overline{BC} = 10.2$
$\overline{AC} = 9$

For numbers 30-33, find the length of $\overline{AB}$. Assume lines that appear to be tangent are tangent.

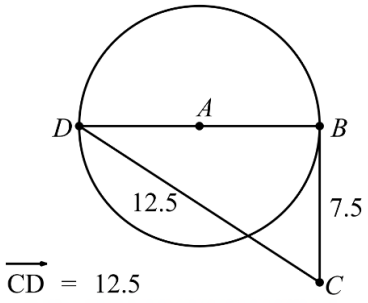
24. $\overline{AB} =$



25. $\overline{AB} =$

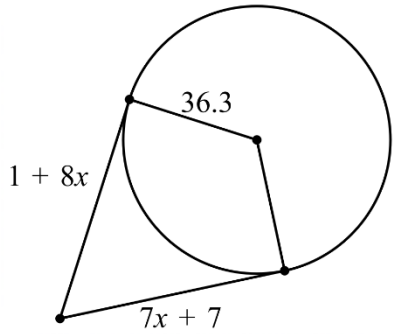


26. $\overline{AB} =$

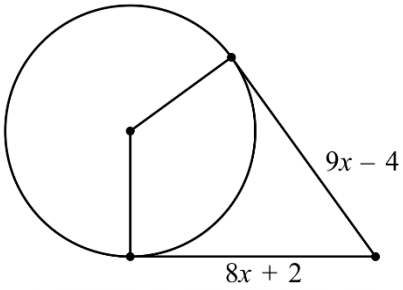


Solve for *x*. Assume lines that appear to be tangent are tangent.

27. $x =$
Why?

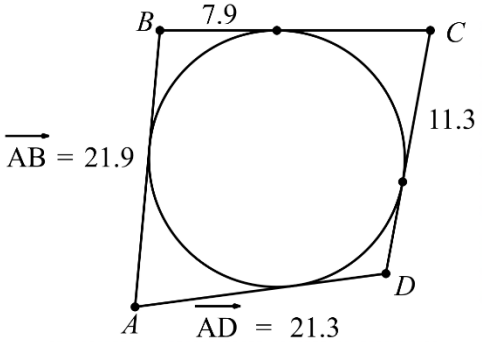


28. $x =$
Why?

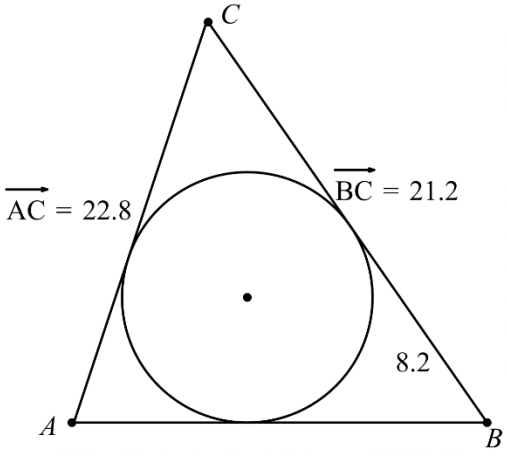


Find the perimeter of each polygon. Assume lines that appear to be tangent are tangent.

29. Perimeter =

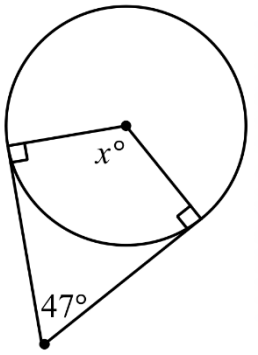


30. Perimeter =

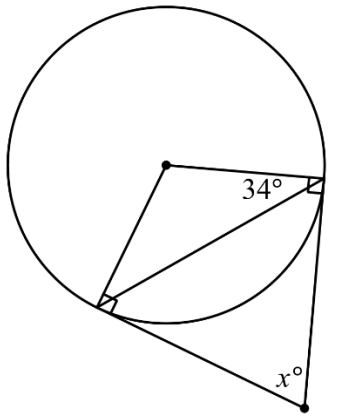


Find the value of *x*.

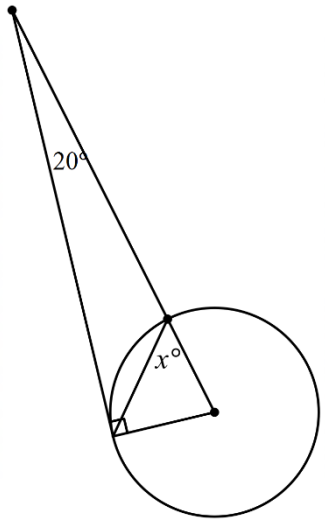
31. $x =$



32. $x =$

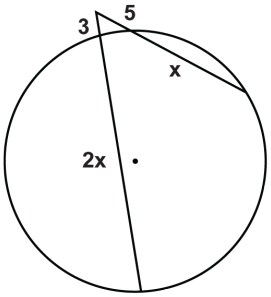


33. $x =$

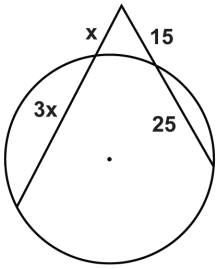


Find the value of the missing variable.

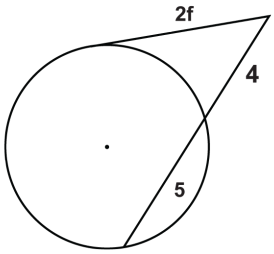
34. $x =$



35. $x =$



36. $f =$



37. $h =$