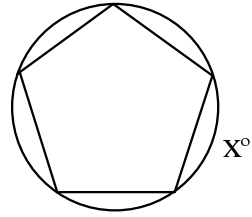


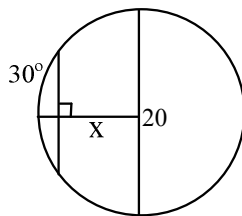
## Always, Sometimes, Never

- 1.) A radius that meets a tangent of a circle is perpendicular to this tangent.
- 2.) 2 circles have 4 common tangents.
- 3.) Congruent chords have congruent arcs.

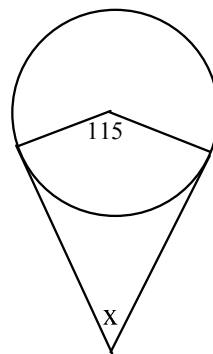
This is a regular pentagon inscribed in this circle.  
Find the value of  $x$



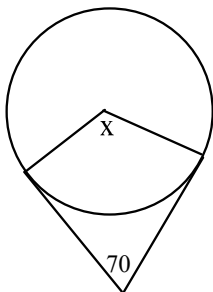
Find the value of  $x$



Find the value of  $x$



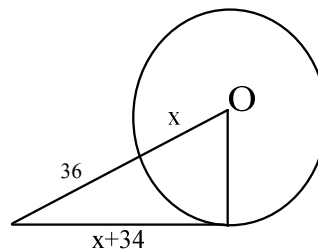
Find the value of  $x$



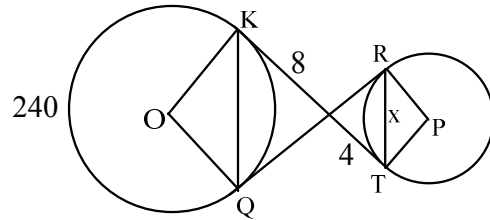
How many common tangents will 2 internally tangent circles share?

The radius of circle P is 30 cm. What is the length of a chord that is 18 cm from the center?

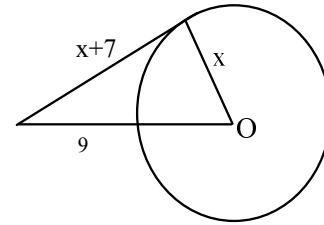
Find the value of  $x$  using circle O below:



O and P are centers of circles with points of tangency K, Q, R, and T. Find RT.

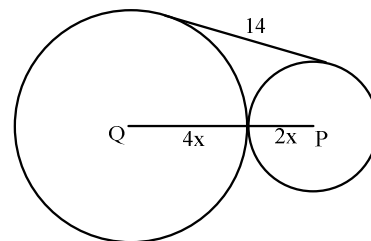


Find the value of  $x$



How many internal tangents do two externally tangent circles share?

Q and P are the centers of these tangent circles. Find the value of  $x$ .



Circle P has radii  $\overline{PB}$  and  $\overline{PA}$  that meet at a 120 degree angle. If the diameter of the circle is 26 in, what is the length of  $\overline{AB}$ ?