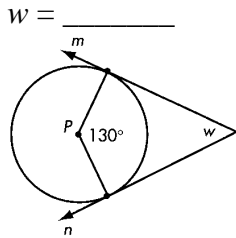
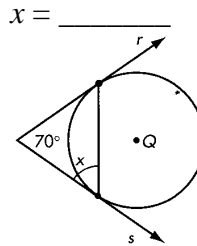


# 7.3 – Discovering Tangent Properties

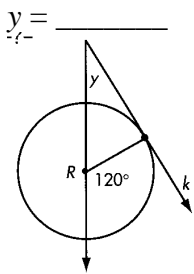
- 1) Rays  $m$  and  $n$  are tangent to circle  $P$ .



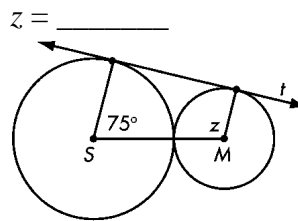
- 2) Rays  $r$  and  $s$  are tangent to circle  $Q$ .



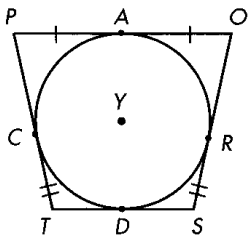
- 3) Ray  $k$  is tangent to circle  $R$ .



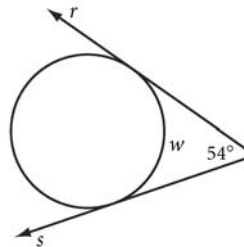
- 4) Line  $t$  is tangent to both tangent circles



- 5) Quadrilateral  $POST$  is circumscribed about circle  $Y$ .  $OR = 13$  in. and  $ST = 12$  in. Find the perimeter of  $POST$ .

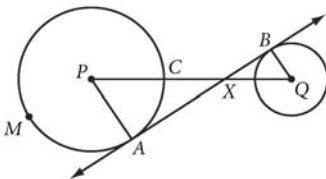


- 5) Rays  $r$  and  $s$  are tangents.  $w =$  \_\_\_\_\_



- 6)  $\overline{AB}$  is tangent to both circles and  $m\widehat{AMC} = 295^\circ$ .

$m\angle BQX =$  \_\_\_\_\_

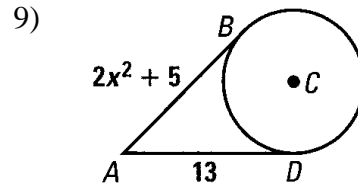
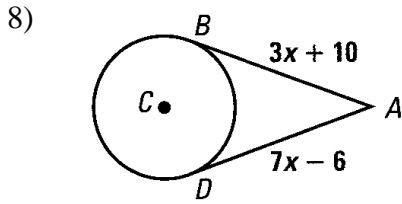


- 7) Circle  $A$  has diameter 16.4 cm. Circle  $B$  has diameter 6.7 cm.

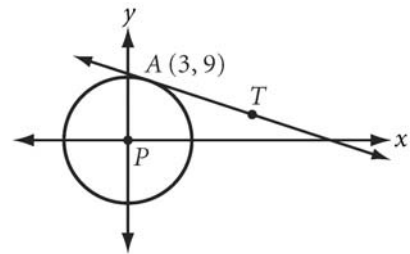
a. If circles  $A$  and  $B$  are internally tangent, what is the distance between their centers?

b. If circles  $A$  and  $B$  are externally tangent, what is the distance between their centers?

In # 8 and 9, find the value of  $x$ . Show all algebraic work.



10)  $\overline{AT}$  is tangent to circle  $P$ . Find the equation of  $\overline{AT}$ .



Try this out if you can...

Circle  $U$  passes through points  $(3, 11)$ ,  $(11, -1)$ , and  $(-14, 4)$ . Find the coordinates of the center of the circle. (Clues: midpoints and perpendiculars)

