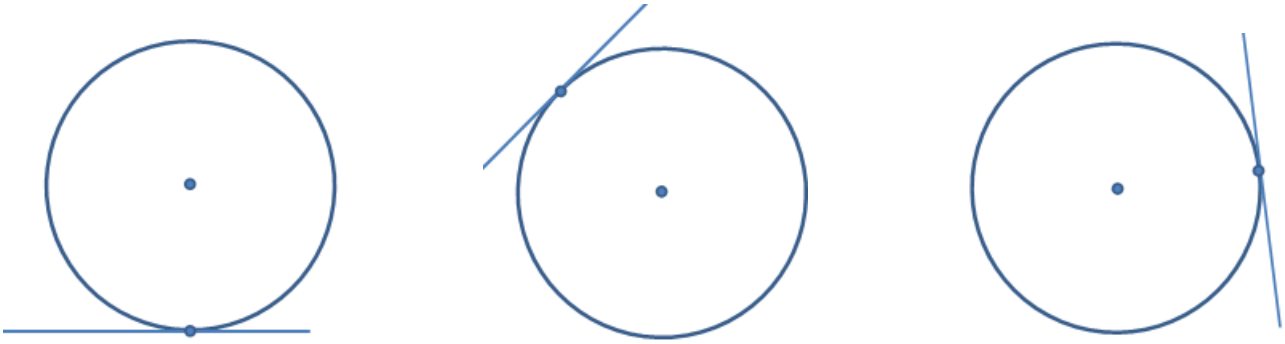
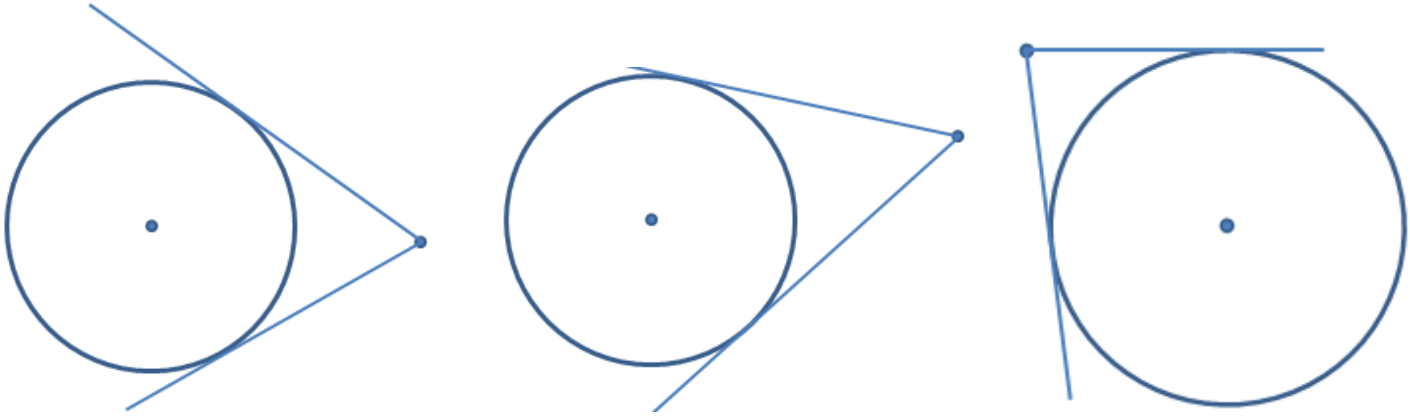
Name:_____ Date:_____

HW Section 8.1 Tangents and Circles:

1. Draw a radius from the centre of the circle to each tangent point. Use a protractor to measure the angle between the radius and the tangent line. What is the measure of this tangent line?

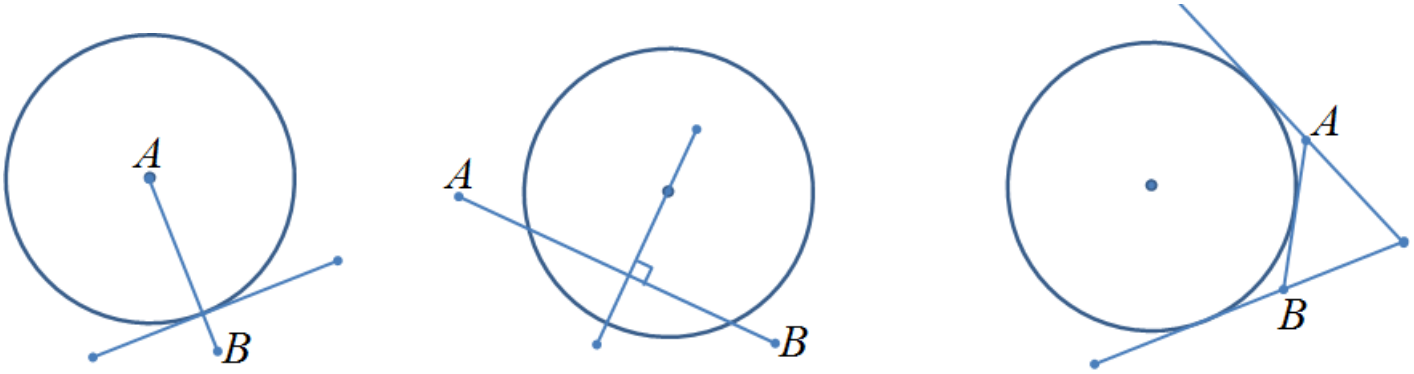


2. Given each circle and exterior point, measure the distance from the exterior point to both tangent points. Compare the lengths of the tangent lines. Do they have the same length or different lengths?



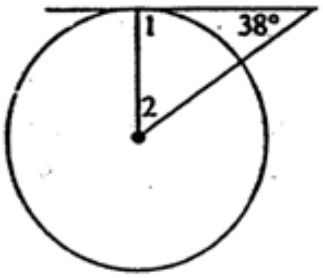
3. What are the conditions required for a line to be a tangent line?

4. Given each line AB below, indicate whether if it is a tangent line or not. If not, state the reason:

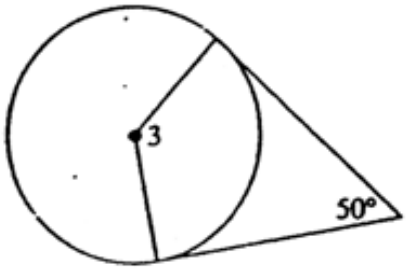


5. Given each circle, find values of the missing angles

a) $\angle 1 =$ _____ $\angle 2 =$ _____

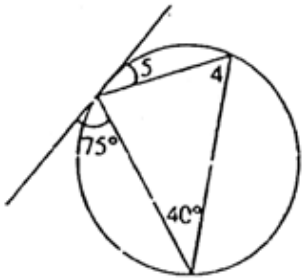


b) $\angle 3 =$ _____

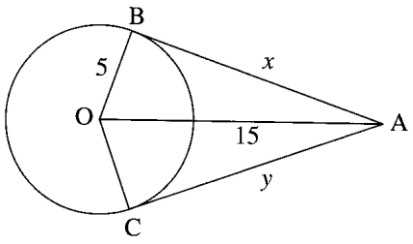


c) Challenge:

$\angle 4 =$ _____ $\angle 5 =$ _____

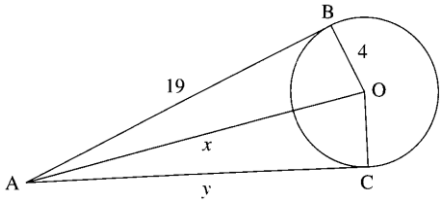


a)



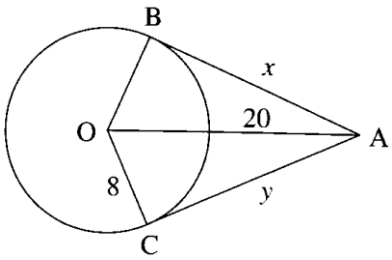
x=_____ y=_____

b)



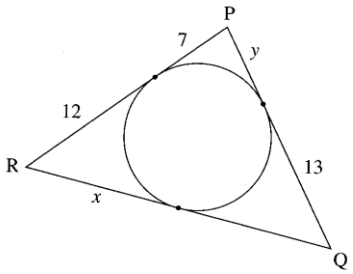
x=_____ y=_____

c)



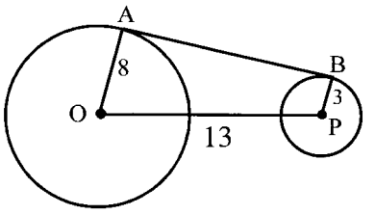
x=_____ y=_____

d)



x=_____ y=_____

e)

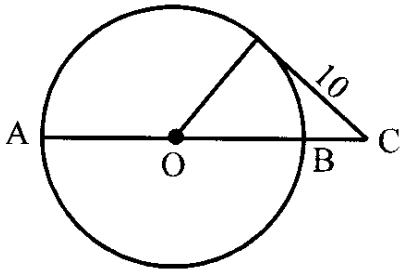


AB =

x=_____ y=_____

f)

AC = 20 BC = _____



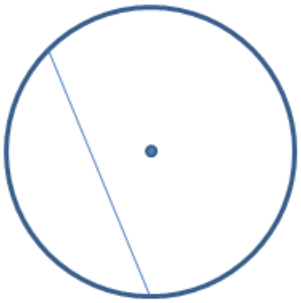
BC=_____

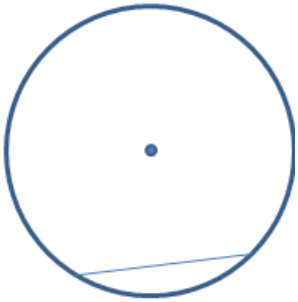
Name:_____ Date:_____

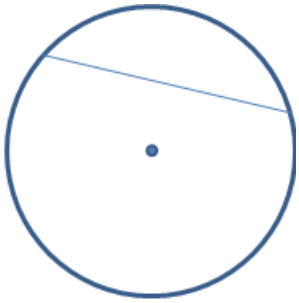
HW Section 8.2 Chord Properties

1. For each circle below, draw a chord. Then draw a line that will bisect and is perpendicular to the chord. Will this line cross the centre of the circle?

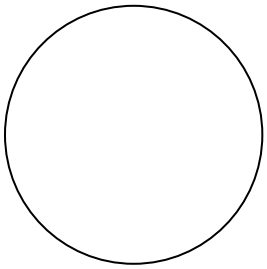
2. Draw a line from the centre to the midpoint of the chord. Then use a protractor to measure the angle between the chord and line.

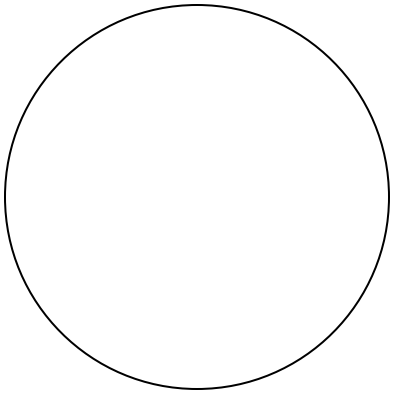


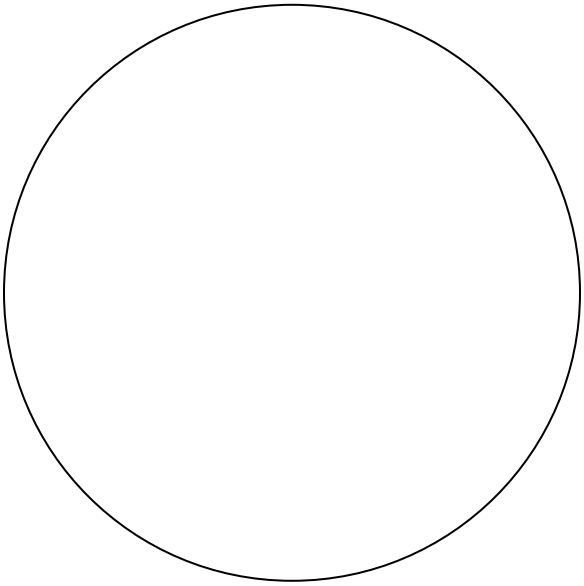




3. Given each circle below, draw two chords and their perpendicular bisectors to find the center of the circles

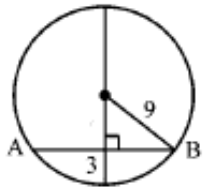




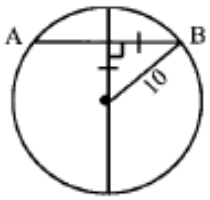


4. Solve for the missing lengths in each diagram:

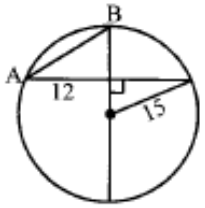
a) $AB =$



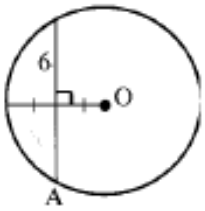
b) $AB =$



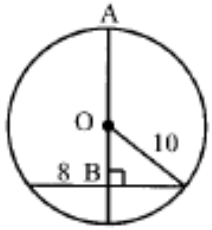
c) $AB =$



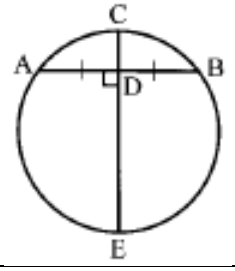
d) $AO =$



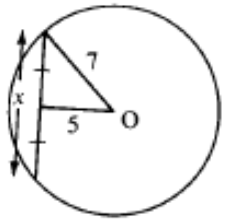
e) $AB =$



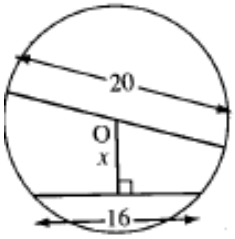
f) $CD = 2,\ ED = 8,\ AB =$



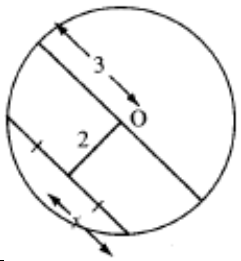
g) $x =$



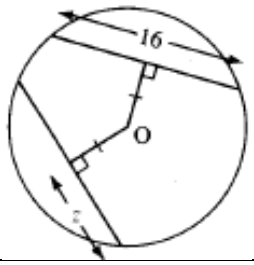
h) $x =$



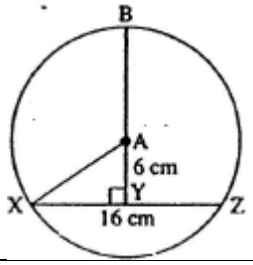
i) $x =$



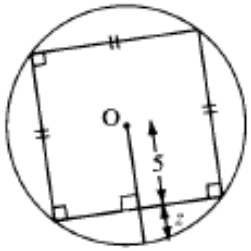
j) $z =$



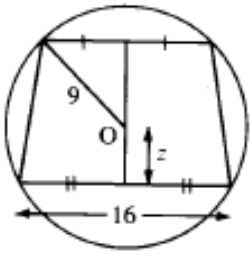
k) $BY =$



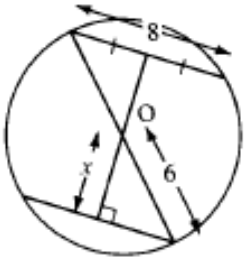
l) $z =$



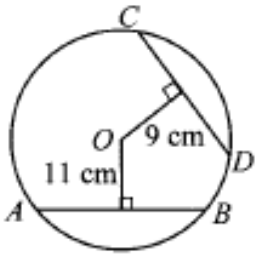
m) $z =$



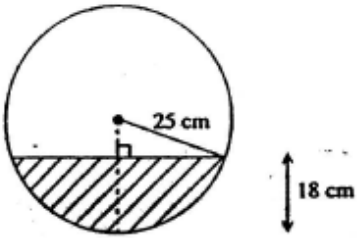
n) $x =$



o) $AB = 6,\ CD =$



5. The maximum depth of water in a circular pipe of radius 25cm is 18cm. Find the width of the water surface across the pipe.



6. If AB =10cm, CF = 21cm, and AE = 8cm. Find the length of CD and AC.