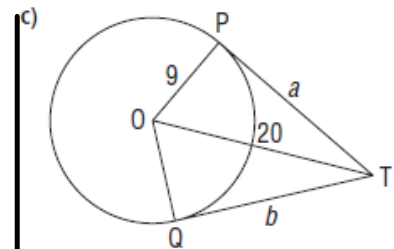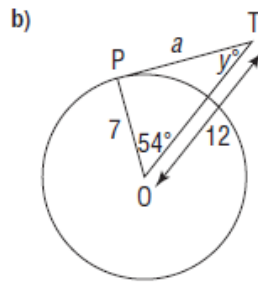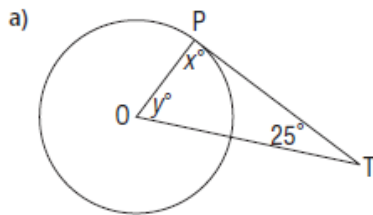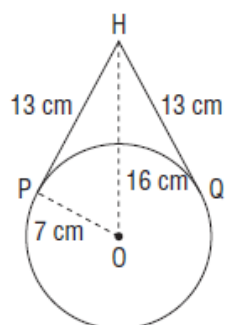## Review

Give the answers to the nearest tenth where necessary.

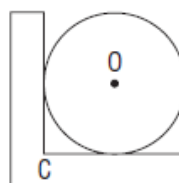1. Point O is the centre of each circle.
   Segments PT and QT are tangents.
   Determine each value of $x°$, $y°$, a, and b.
   Show your work.

a)

b)

c)

2. A circular mirror is suspended by a wire from a hook, H. Point O is the centre of the circle and is 16 cm below H. Explain how you know that the wire is *not* a tangent to the circle at P and at Q.

4. A circular plate is supported so it touches two sides of a shelf. The diameter of the plate is 20 cm. How far is the centre O of the plate from the inside corner C of the shelf? Which circle properties helped you find out?
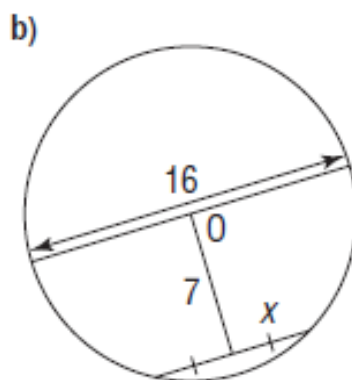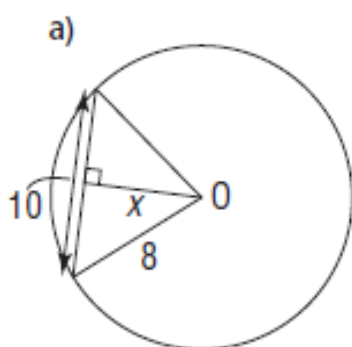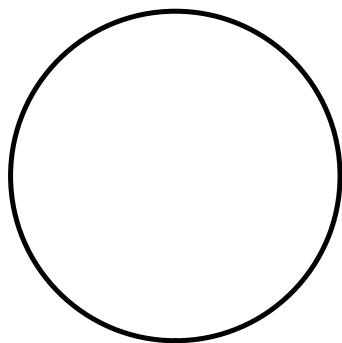
8.2 **5.** Point O is the centre of each circle.
Determine each value of x.
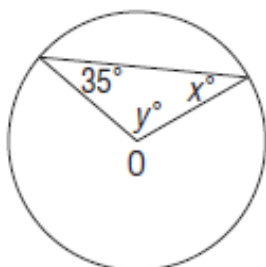Justify your answers.

a)

b)

6. A dream catcher with diameter 22 cm is strung with a web of straight chords.

One of these chords is 18 cm long.

a) Sketch a diagram.

b) How far is the chord from the centre of the circle? Justify your solution strategy.
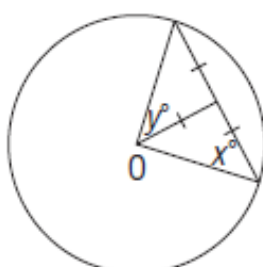
7. Point O is the centre of each circle. Determine each value of $x°$ and $y°$. Which circle properties did you use?
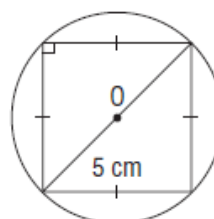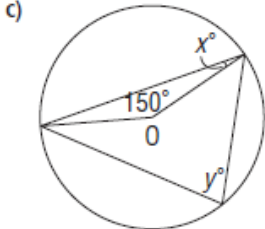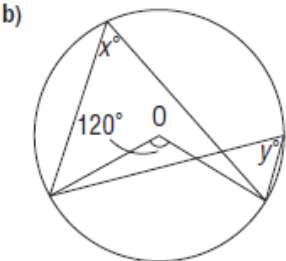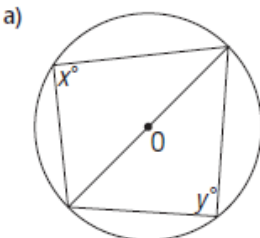
a)

b)

8. A square has side length 5 cm. It is inscribed in a circle, centre O. What is the length of the radius of the circle? How do you know?

9. Point O is the centre of each circle.
Determine each value of $x°$ and $y°$.
Justify your answers.

a)

b)

c)

10. A rectangle is inscribed in a circle, centre O and diameter 36.0 cm. A shorter side of the rectangle is 10.0 cm long. What is the length of a longer side? How do you know?
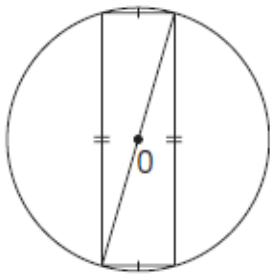
1. Point O is the centre of the circle. Point P is a point of tangency. Determine the values of x and $y°$. Give reasons for your answers.
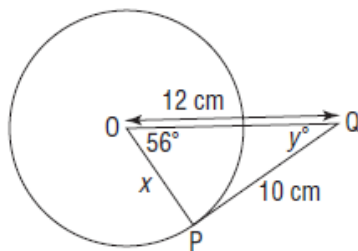
3. A circle has diameter 6.0 cm. Chord AB is 2.0 cm from the centre of the circle.
  a) Sketch a diagram.
  b) How long is the chord AB?
  c) Another chord, CD, in the circle is 2.5 cm from the centre of the circle.
     Is chord CD longer or shorter than chord AB? Justify your answer.
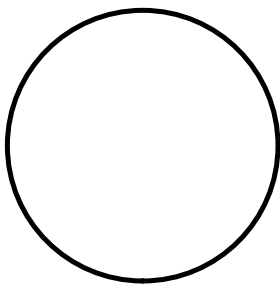
2. Point O is the centre of the circle.
   Determine the values of $x°$, $y°$, and $z°$.
   Which circle properties did you
   use each time?