

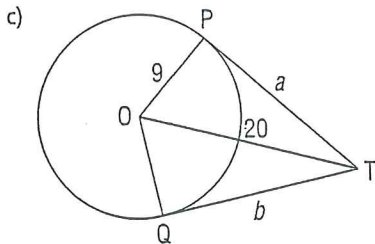
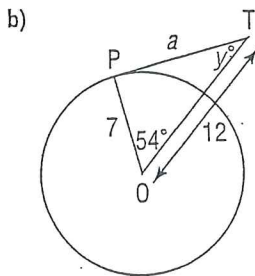
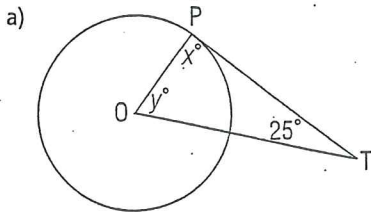
Review

U5L8: REVIEW (day 2)

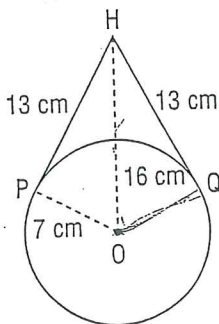
Give the answers to the nearest tenth where necessary.

8.1

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.

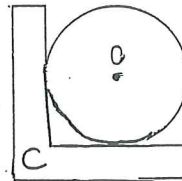


2. A circular mirror is suspended by a wire from a hook, H. Point O is the centre of the circle and is 16 cm below H. Explain how you know that the wire is *not* a tangent to the circle at P and at Q.



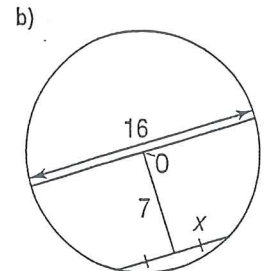
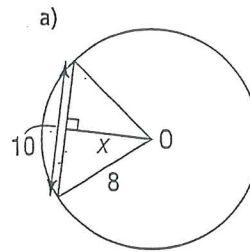
3. Draw a circle with centre O. Mark a point P on the circle. Explain how to draw a tangent to the circle. Which circle property did you use?

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?



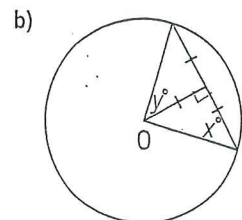
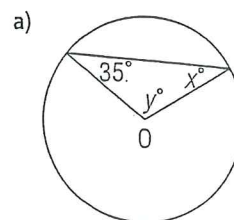
8.2

5. Point O is the centre of each circle. Determine each value of x . Justify your answers.

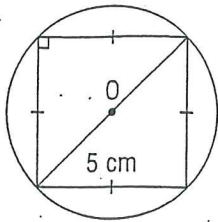


6. A dream catcher with diameter 22 cm is strung with a web of straight chords. One of these chords is 18 cm long.
- Sketch a diagram.
 - How far is the chord from the centre of the circle? Justify your solution strategy.

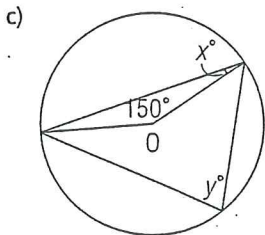
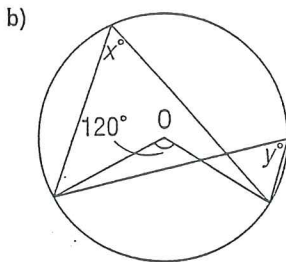
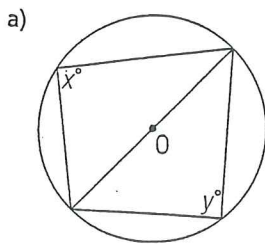
7. Point O is the centre of each circle. Determine each value of x° and y° . Which circle properties did you use?



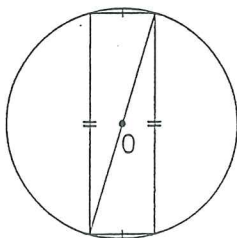
8. A square has side length 5 cm. It is inscribed in a circle, centre O. What is the length of the radius of the circle? How do you know?



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

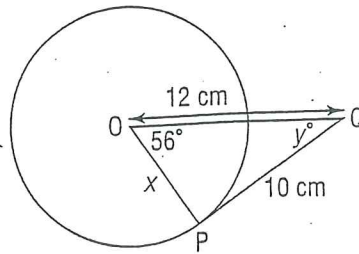


10. A rectangle is inscribed in a circle, centre O and diameter 36.0 cm. A shorter side of the rectangle is 10.0 cm long. What is the length of a longer side? How do you know?

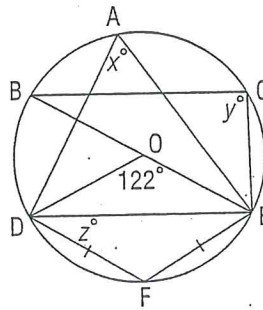


Practice Test

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.



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?

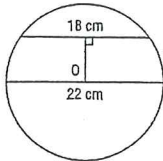


3. A circle has diameter 6.0 cm. Chord AB is 2.0 cm from the centre of the circle.
- Sketch a diagram.
 - How long is the chord AB?
 - Another chord, CD, in the circle is 2.5 cm from the centre of the circle.
Is chord CD longer or shorter than chord AB? Justify your answer.
4. Use what you know about inscribed and central angles to explain why the angle inscribed in a semicircle is 90° .
5. Where is the longest chord in any circle? How do you know? Draw a diagram to illustrate your answer.
6. A circle has diameter 16 cm.
- Which of the following measures could be distances of chords from the centre of this circle? How could you check your answers?
i) 4 cm ii) 6 cm iii) 8 cm iv) 10 cm
 - For each possible distance you identified in part a, determine the length of the chord.
7. a) Construct a circle and mark points P and Q to form major and minor arcs PQ.
b) Construct inscribed $\angle PRQ$ subtended by minor arc PQ.
c) Construct inscribed $\angle PSQ$ subtended by major arc PQ.
d) How are $\angle PRQ$ and $\angle PSQ$ related? Justify your answer.

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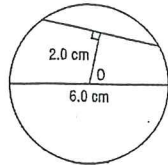
1. a) $x^\circ = 90^\circ, y = 65^\circ$
 b) $a \doteq 9.7, y^\circ = 36^\circ$
 c) $a = b \doteq 17.9$
2. Since $7^2 + 13^2 \neq 16^2$, $\angle HPO \neq 90^\circ$. So, the wire HP is not a tangent.
3. Draw a line perpendicular to the radius OP at the point P. This line is a tangent using the Tangent-Radius Property.
4. About 14.1 cm.
5. a) $x \doteq 6.2$
 b) $x \doteq 3.9$
6. a)



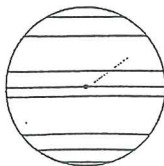
- b) The chord is about 6.3 cm from the centre of the circle.
7. a) $x^\circ = 35^\circ, y^\circ = 110^\circ$
 b) $x^\circ = y^\circ = 45^\circ$
8. About 3.5 cm
9. a) $x^\circ = y^\circ = 90^\circ$
 b) $x^\circ = y^\circ = 60^\circ$
 c) $x^\circ = 15^\circ, y^\circ = 75^\circ$
10. About 34.6 cm

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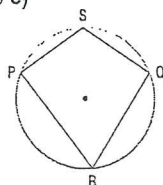
1. $x \doteq 6.6 \text{ cm}, y = 34^\circ$
2. $x^\circ = 61^\circ, y^\circ = 90^\circ, z^\circ = 30.5^\circ$
3. a)



- b) About 4.5 cm
- c) CD is shorter than AB.
4. The central angle of a semicircle is 180° . The inscribed angle is one-half of the central angle, which is 90° .
5. The longest chord is the diameter. The farther away a chord is from the centre of the circle, the shorter the chord.



6. a) Parts i and ii
 b) i) About 13.9 cm ii) About 10.6 cm
7. a) to c)



- d) $\angle PRO$ and $\angle PSO$ have a sum of 180°