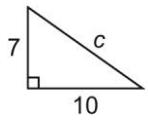
Math 9

Review - Chapter 9

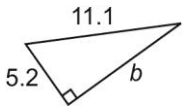
Name_____

1. For each triangle below, determine the unknown length.
   Give the answers to the nearest tenth.

   a.

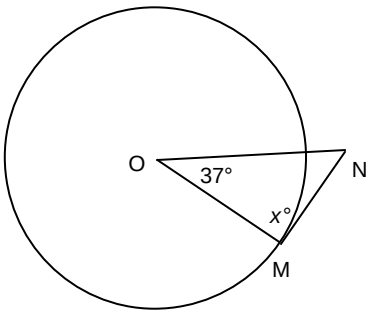


   b.

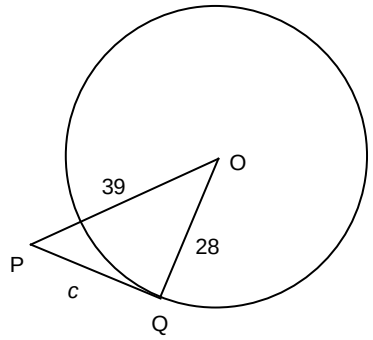


2. Draw and label a diagram to illustrate the property of a tangent to a circle.

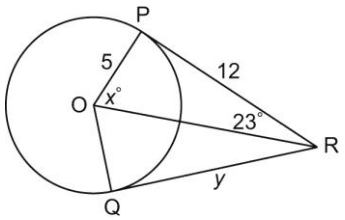
3. O is the centre of this circle and point M is a point of tangency. Determine the value of $x°$.



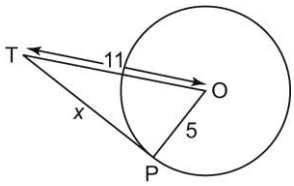
4. O is the centre of this circle and point Q is a point of tangency. Determine the value of *c*. If necessary, give your answer to the nearest tenth.



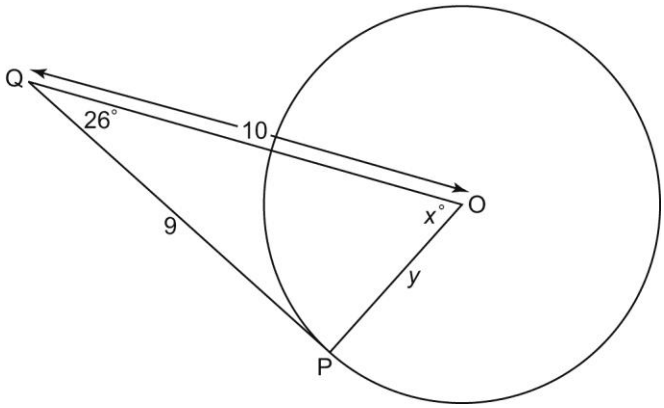
5. Point O is the centre of the circle. Points P and Q are points of tangency. Determine the values of $x°$ and y. Justify your solutions.



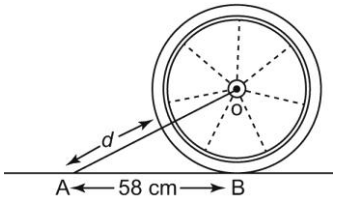
6. Point O is the centre of the circle. Point P is a point of tangency. Determine the value of x to the nearest tenth. Justify your solution.



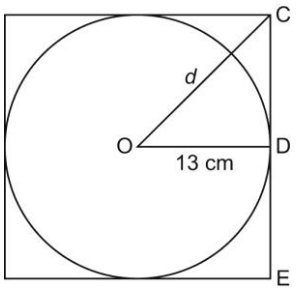
7. Point O is the centre of the circle. Point P is a point of tangency. Determine the values of $x°$ and y. Justify your solutions.



8. A wheel has radius 30 cm. It rolls along the ground toward a tack that is 58 cm from the point where the wheel currently touches the ground. What is the distance, d, between the tack and the closest point on the circumference of the wheel? Give the answer to the nearest tenth of a centimetre.

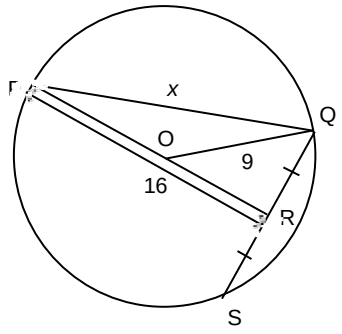


9. A circular plate has radius 13 cm. It is packed in a square cardboard frame whose 4 edges just touch the plate. What is the distance, d, from the centre of the plate to a corner of the frame? Give the answer to the nearest tenth of a centimetre.

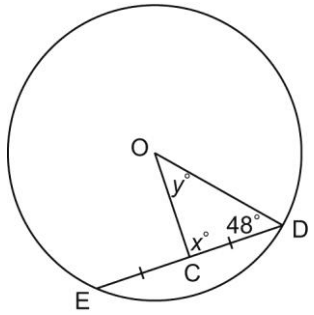


10. Draw and label a diagram to illustrate the relationship between a chord, its perpendicular bisector, and the centre of a circle.

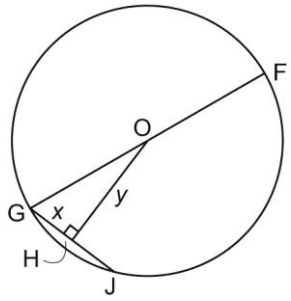
11. O is the centre of the circle. Determine the value of x to the nearest tenth, if necessary.



12. Point O is the centre of the circle. Determine the values of $x°$ and $y°$.



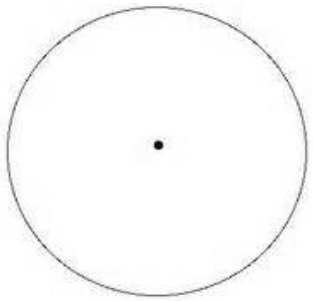
13. Point O is the centre of the circle; OF $= 18$ cm; and GJ $= 14$ cm. Determine the values of x and y to the nearest tenth of a centimetre where necessary.



14. A circle has diameter 70 cm. A chord in the circle is 50 cm long. How far is the chord from the centre of the circle? Give the answer to the nearest tenth of a centimetre.

15. A circle with radius 10 cm has a chord with length 12 cm. How far from the centre of the circle is the chord? Draw a diagram to support your solution.

16. A circular water pipe has a diameter of 13 feet. The surface length of water in the pipe is 7 feet and its depth is less than 6.5 feet. Determine the exact maximum depth of the water.



17. Draw and label a diagram to illustrate each property.

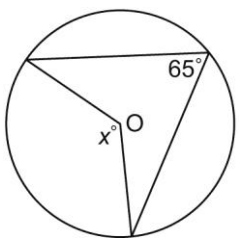
a. an inscribed angle and a central angle subtended by the same arc

b. inscribed angles subtended by the same arc

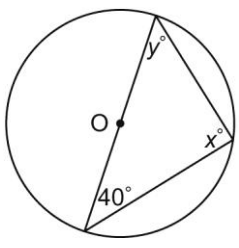
c. an angle inscribed in a semicircle

18. Point O is the centre of each circle. Determine the values of $x°$ and $y°$. Justify your solutions.

a)



b)



c)