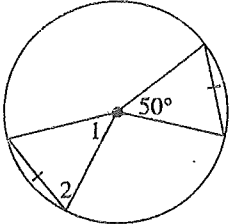
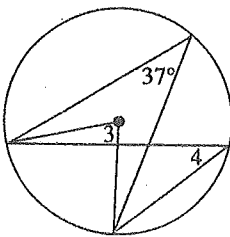


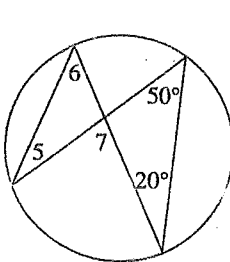
Pm 9

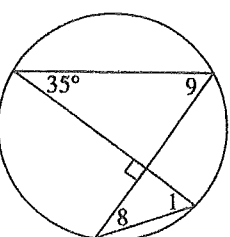
Angles in a Circle

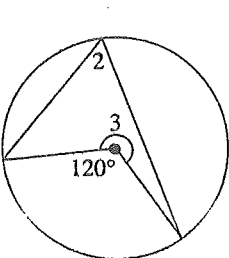
Find the measure of each indicated angle.

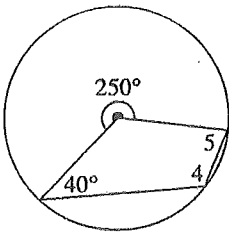
1)  $\angle 1 =$ _____
 $\angle 2 =$ _____

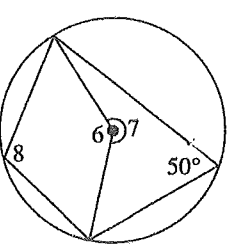
2)  $\angle 3 =$ _____
 $\angle 4 =$ _____

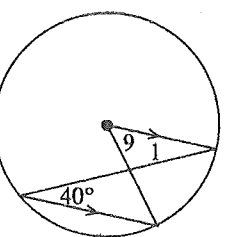
3)  $\angle 5 =$ _____
 $\angle 6 =$ _____
 $\angle 7 =$ _____

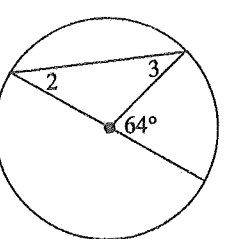
4)  $\angle 8 =$ _____
 $\angle 9 =$ _____
 $\angle 1 =$ _____

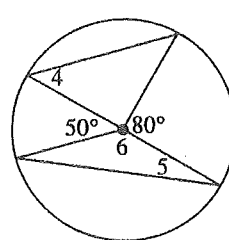
5)  $\angle 2 =$ _____
 $\angle 3 =$ _____

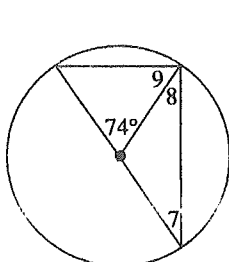
6)  $\angle 4 =$ _____
 $\angle 5 =$ _____

7)  $\angle 6 =$ _____
 $\angle 7 =$ _____
 $\angle 8 =$ _____

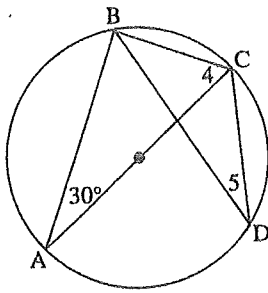
8)  $\angle 9 =$ _____
 $\angle 1 =$ _____

9)  $\angle 2 =$ _____
 $\angle 3 =$ _____

10)  $\angle 4 =$ _____
 $\angle 5 =$ _____
 $\angle 6 =$ _____

11)  $\angle 7 =$ _____
 $\angle 8 =$ _____
 $\angle 9 =$ _____

12)

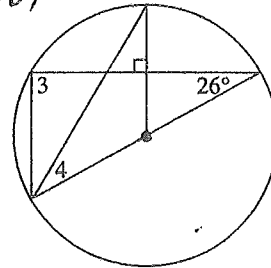


$\angle ABC =$ _____

$\angle 4 =$ _____

$\angle 5 =$ _____

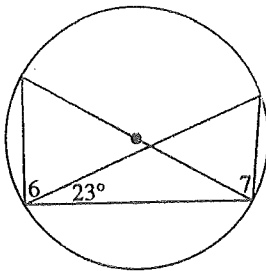
16)



$\angle 3 =$ _____

$\angle 4 =$ _____

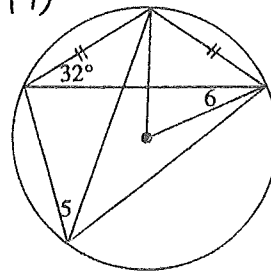
13)



$\angle 6 =$ _____

$\angle 7 =$ _____

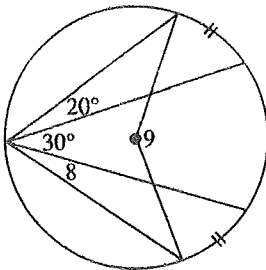
17)



$\angle 5 =$ _____

$\angle 6 =$ _____

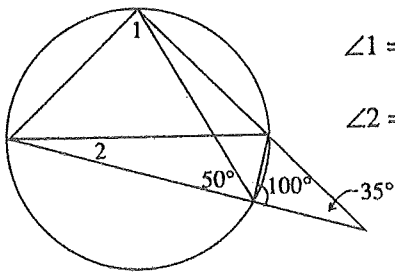
14)



$\angle 8 =$ _____

$\angle 9 =$ _____

15)



$\angle 1 =$ _____

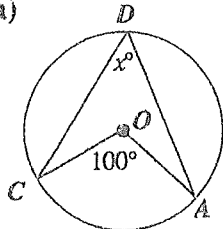
$\angle 2 =$ _____

Angles in a Circle

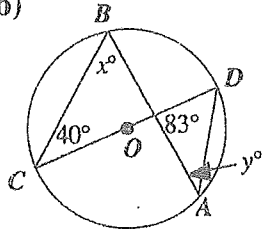
Assignment 2

1) Find the value of the missing variables.

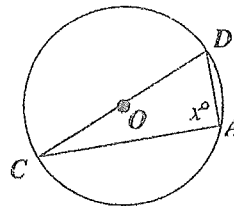
a)



b)

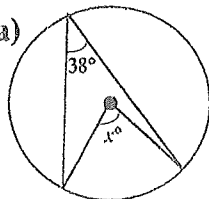


c)

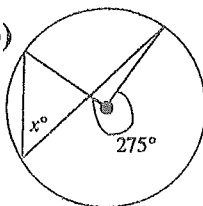


2) Find the value of the variables. The centre of each circle is marked with a solid point.

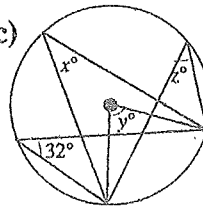
a)



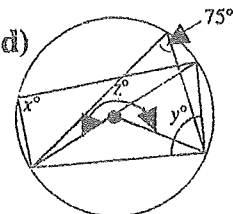
b)



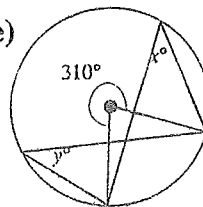
c)



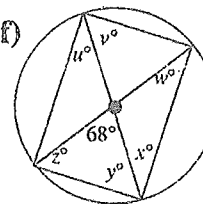
d)



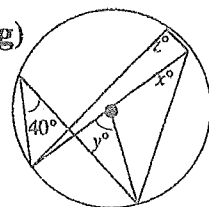
e)



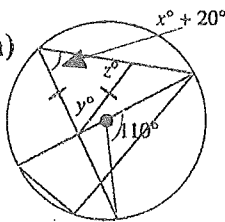
f)



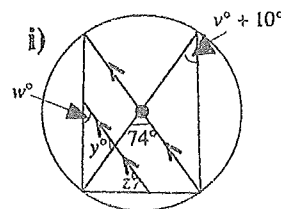
g)



h)

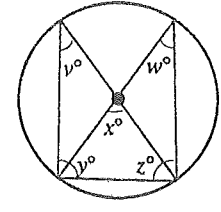


i)



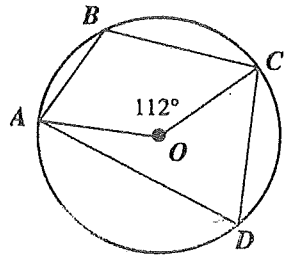
3) The solid point is the centre of the circle shown. Of the following relationships, the one which is **false** is

- A. $v = w$
- B. $v = \frac{1}{2}x$
- C. $v + w = x$
- D. $y = z = 2v$



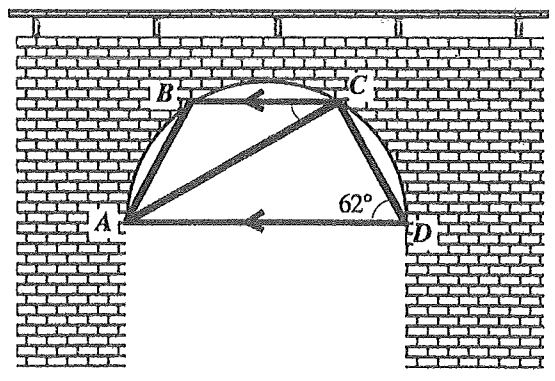
4) In the diagram O is the centre of the circle. If $\angle AOC$ is 112° , then $\angle ABC$ is

- A. 90°
- B. 124°
- C. 137°
- D. 248°



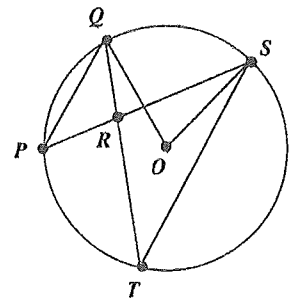
5) The sketch shows a tunnel with a steel frame bolted underneath it to give it more support. $A, B, C,$ and D represent the points at which the frame is bolted. The arch of the tunnel of the bridge is a semi-circle, with AD as the diameter. The size of $\angle ACB$ is

- A. 28°
- B. 31°
- C. 34°
- D. 42°

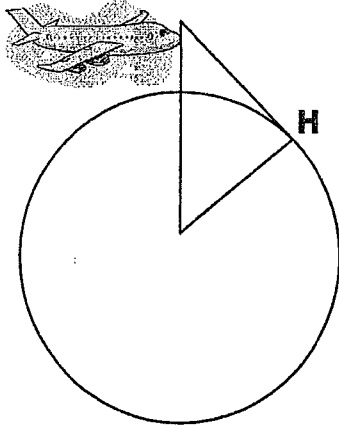


6) In the diagram $PR = QR$. If $\angle QOS = x^\circ$, then $\angle PRQ$ is equal to

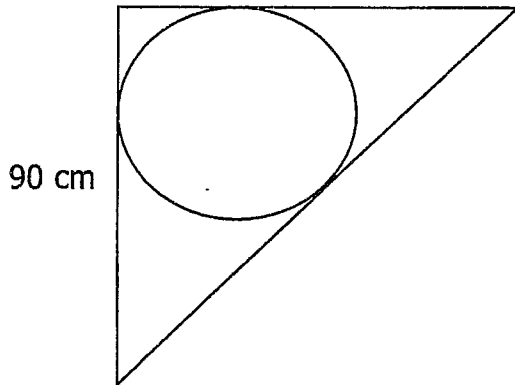
- A. $2x^\circ$
- B. $180^\circ - \frac{1}{2}x^\circ$
- C. $180^\circ - x^\circ$
- D. $180^\circ - 2x^\circ$



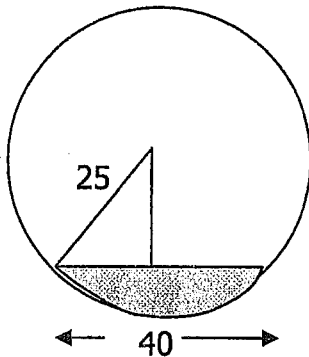
An airplane is flying at an altitude of 7000 m. A passenger wonders how far he is from a point on the horizon H from that point. (The approximate radius of the Earth is 6400 km.)



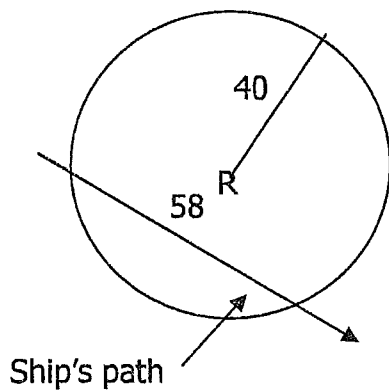
A cylindrical pipe touches a wall and the ceiling of a room. The pipe is supported by a brace. The ends of the brace are 90 cm from the wall and the ceiling. Find the circumference of the pipe. Find the radius first
90 cm



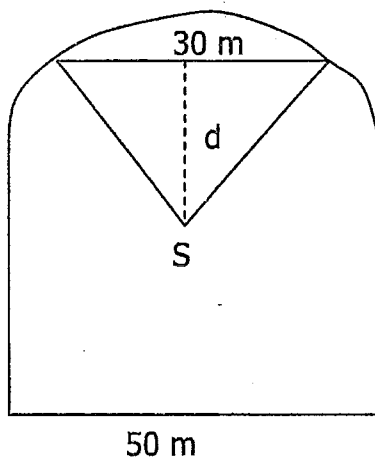
A cylindrical pipe has a radius of 25 cm. Water has collected in the bottom of the pipe. The surface length of the water is 40 cm. Find the maximum depth of the water



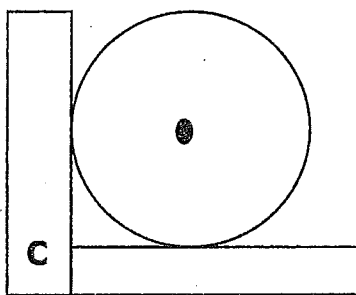
A radar station R tracks all ships in a circle with radius 40 km. A ship enters this radar zone and the station tracks it for 58 km until the ship passes out of range. What is the closest distance the ship comes to the radar station?

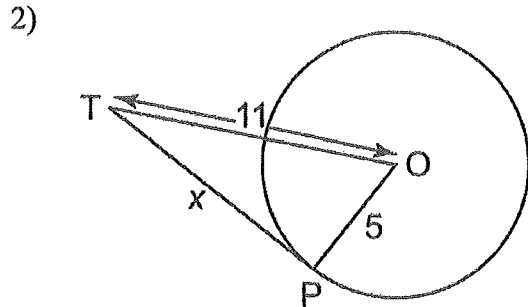
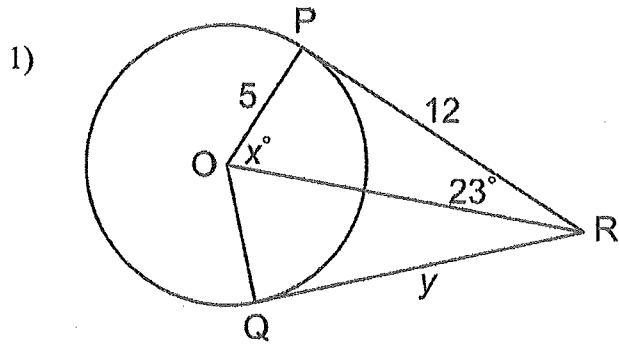


An arena is 50 m wide. It has a roof with a semi-circular cross section. The scoreboard S is suspended at the centre of the semicircle by wires attached to the ends of 30 m horizontal beam. How far is the scoreboard from the beam?

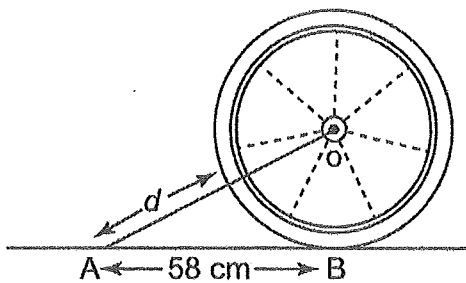


A circular plate, with a diameter of 40 cm, touches two sides of the shelf. How far is the center of the plate from the corner C?

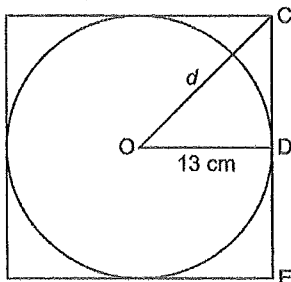




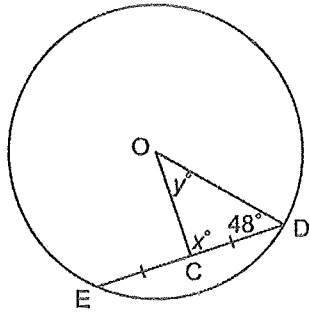
- 3) A wheel has radius 30 cm. It rolls along the ground toward a tack that is 58 cm from the point where the wheel currently touches the ground. What is the distance, d , between the tack and the closest point on the circumference of the wheel? Give the answer to the nearest tenth of a centimetre.



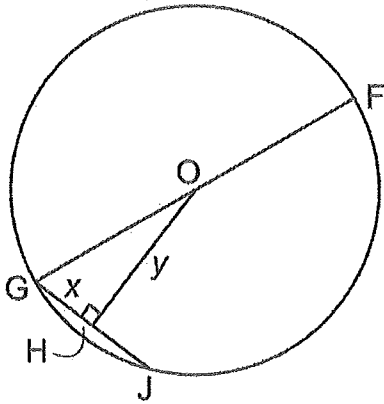
- 4) A circular plate has radius 13 cm. It is packed in a square cardboard frame whose 4 edges just touch the plate. What is the distance, d , from the centre of the plate to a corner of the frame? Give the answer to the nearest tenth of a centimetre.



- 5) Point O is the centre of the circle. Determine the values of x° and y° .



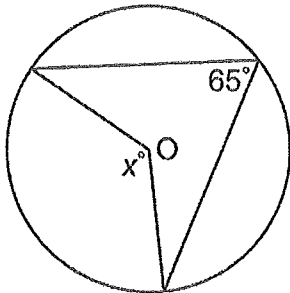
- 6) Point O is the centre of the circle; $OF = 18$ cm; and $GJ = 14$ cm. Determine the values of x and y to the nearest tenth of a centimetre where necessary.



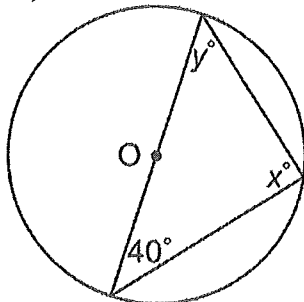
- 7) A circle has diameter 22 cm. Two chords are drawn on opposite sides of the centre of the circle. One chord is 16 cm long and the other chord is 12 cm long.
 a) Which chord is closer to the centre of the circle?
 b) How much closer to the centre is this chord?

- 8) Point O is the centre of each circle. Determine the values of x° and y° . Justify your solutions.

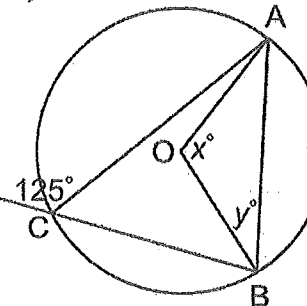
a)



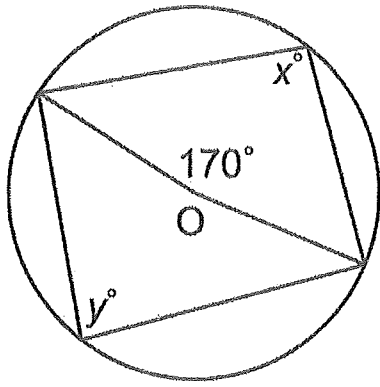
b)



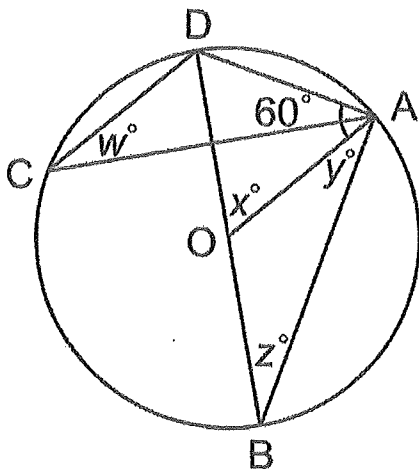
c)



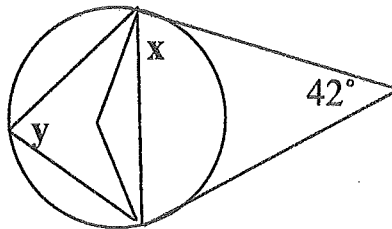
9)



10)



11)



12)

