1. Convert each of the following angles given in degrees, to radians. Give your answers correct to 2 decimal places.
   a) 32º, b)95º, c) 217º.

2. 2Convert each of the following angles given in radians, to degrees. Give your answers correct to 2 decimal places.
   a) 3 rad, b) 2.4 rad, c) 1 rad.

3. Without a calculator, convert the angles from radians, to degrees. a) π/15 b)π/5

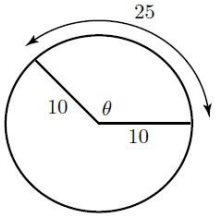
4. Convert the following angles given in degrees, to radians. Do not use a calculator and give your answers as multiples of π.
   a) 90º, b)72º, c)45º.

5. Determine the angle (in radians) subtended at the centre of a circle of radius 3cm by each of the following arcs:
   a) arc length 6 cm b) arc length 3π cm c) arc length 1.5

6. A sector of area 12cm^2 has a radius of 4.2cm. Find the size of the angle in degrees.

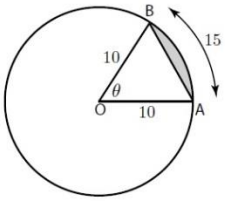
7. The area of a segment is 20cm2 and the angle subtended by the chord forming the segment is 1.3 radians. What is the radius of the circle?

8. Consider the following diagram.



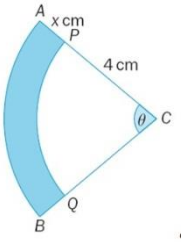
   a. Find θ
   b. Find the area of the sector created by θ

9. Use the diagram below to answer the questions.



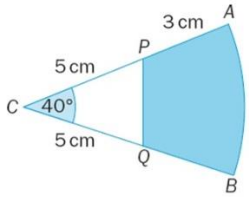
   Find (a) the angle θ, (b) the area of sector OAB, (c) the area of the minor segment (shaded).

10. A sector of a circle has a centre C and an arc AB. The arc PQ of a smaller circle, centre C, cuts off the shared area in the sector as shown in the diagram.



   If PC=CQ=4cm, AP=BQ= x cm and $\theta = \frac{\pi}{3}$, show that the area of the shape ABQP is given by $\frac{\pi x}{6}(x+8)cm^2$

11. A sector of a circle has centre C and arc AB. Point P is on the radius AC, where AP=3cm and PC=5cm. There is a point Q on radius BC such that BQ=3cm and QC=5cm. Angle ACB=40º. Find the area of APQB.



12. A circle centre C is divided into 2 sectors by radii CA and CB. The ratio of the area of the minor sector to the major sector is 1:p and the minor sector angle is θ radians. Show that $\theta = \frac{2\pi}{p+1}$