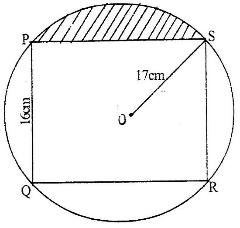
1. The figure below represents a circle a diameter 28 cm with a sector subtending an angle of 750 at the centre.

Find the area of the shaded segment to 4 significant figures

(a) <PST

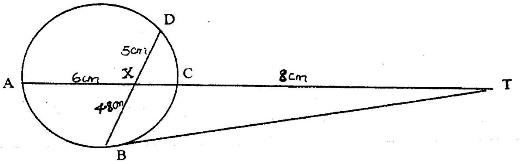
2. The figure below represents a rectangle PQRS inscribed in a circle centre 0 and radius 17 cm. PQ = 16 cm.

Calculate

* 1. The length PS of the rectangle
  2. The angle POS
  3. The area of the shaded region

3. In the figure below, BT is a tangent to the circle at B. AXCT and BXD are

straight lines. AX = 6 cm, CT = 8 cm, BX = 4.8 cm and XD = 5 cm.

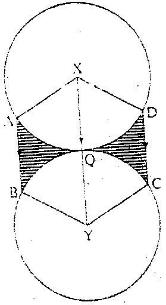


Find the length of

(a) XC

(b) BT

4. The figure below shows two circles each of radius 7 cm, with centers at X and Y. The circles touch each other at point Q.

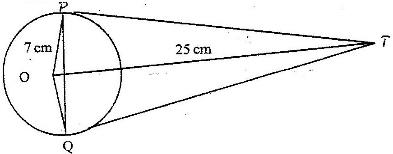


Given that <AXD = <BYC = 1200 and lines AB, XQY and DC are parallel, calculate the area of:

a) Minor sector XAQD (Take π 22/7)

b) The trapezium XABY

c) The shaded regions.

5. The figure below shows a circle, centre, O of radius 7 cm. TP and TQ are tangents to the circle at points P and Q respectively. OT =25 cm.

Calculate the length of the chord PQ