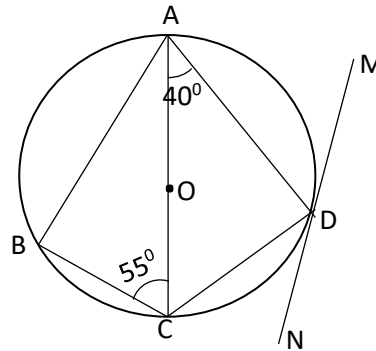


- (iii) From a tower 96 m high, the angles of depression of two vehicles on a road, at the same level as the base of the tower and on the same side of it are x° and y° where $\tan x^\circ = \frac{3}{4}$ and $\tan y^\circ = \frac{1}{3}$. Calculate the distance between the vehicles. [3]

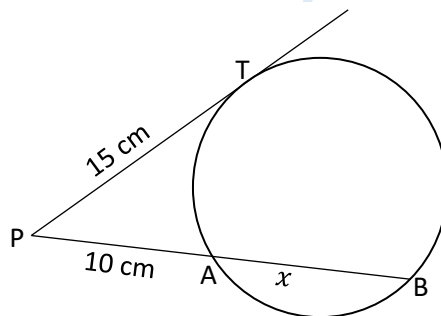
- (iv) Given that AC is the diameter. Find: [3]

- (a) $\angle ADM$
 (b) $\angle BAD$
 (c) $\angle COD$



Question 3

- (i) Find the unknown length x in the following figure: [2]



- (ii) The total surface area of a right circular cylinder is $165\pi \text{ cm}^2$. If the radius of its base is 5 cm, find its height. [2]

- (iii) Prove that $\operatorname{cosec} \theta + \cot \theta = \frac{\sin \theta}{1 - \cos \theta}$ [3]

- (iv) Use graph paper for the following questions. Take 2 cm = 10 marks along one axis and 2 cm = 20 students along other axis. [3]

| Marks | 0 – 10 | 10 – 20 | 20 – 30 | 30 – 40 | 40 – 50 |
|----------------|--------|---------|---------|---------|---------|
| No of students | 8 | 10 | 22 | 40 | 20 |

Draw the ogive for the above distribution and determine the median marks.

Question 4

- (i) Find the equation of the line through (1,3) making an intercept of 5 on the y -axis. [2]

- (ii) The weights of 60 boys are given in the following distribution table: [2]

| | | | | | |
|---------------|----|----|----|----|----|
| Weights in kg | 37 | 38 | 39 | 40 | 41 |
|---------------|----|----|----|----|----|