AI1110 Assignment I (ICSE Class 10 2018)

kummitha jhanavi (CS21BTECH11032)

Question 10b:

Question: In the figure given below O is the centre of the circle. If QR = OP and ∠ ORP = 20. Find the value of x giving reasons **solution**

Let the radius of the circle be r.//

given OP = OR,

OP = OQ = QR = r,

IN Δ OQR, OQ = QR

∠ QOR = ∠ ORP = 20

Consider Δ OQR , An exterior angle of a triangle is equal to the sum of the two opposite interior angles//

$$\rightarrow \angle OQP = 40 \tag{1}$$

∠ OQP = ∠ QOR + ∠ ORQ

$$\rightarrow \angle OQP = 40 \tag{2}$$

consider Δ OPQ

∠ POQ = 180 - ∠OPQ -∠OQP $\implies$ 180 - 40 - 40

$$\rightarrow \angle POQ = 100 \tag{3}$$

now, ∠x +∠POQ +∠QOR = 180

A straight line//

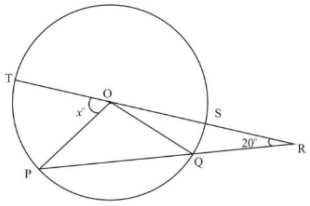
∠ x +100+20 = 180

∠x = 180-120 = 60

hence, the value of x is 60

[redacted]

(b) In the figure given below 'O' is the centre of the circle. If QR = OP and ∠ORP = 20°. Find the value of 'x' giving reasons. [3]



[redacted]

Fig. 1. Caption