

26/8/2020
WEDNESDAY

MATHEMATICS

STD-8
class-23

Textbook page no. 53, 54.

Questions 1, 2, 3 Answers

1. Ans) i) Since $\triangle AOB$ is isosceles,

$$\angle OAB = 20^\circ$$

$$\angle OAC = 30^\circ$$

$$\angle A = 20^\circ + 30^\circ = 50^\circ$$

$$\angle BOC = 2 \times 50^\circ = 100^\circ$$

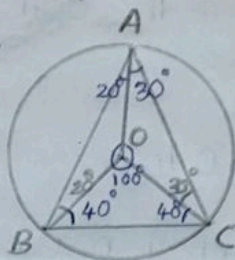
$\triangle OBC$ is isosceles.

$$\angle OBC + \angle OCB = 180 - 100 = 80^\circ$$

$$\angle OBC = 40^\circ, \angle OCB = 40^\circ$$

$$\angle B = 20 + 40 = 60^\circ$$

$$\angle C = 30 + 40 = 70^\circ$$

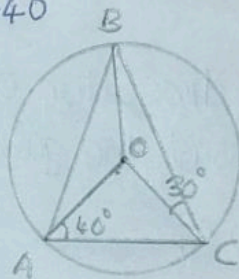


ii) Since $\triangle OAC$ is isosceles, $\angle OCA = 40^\circ$

$$\angle AOC = 180 - (40 + 40)$$

$$= 180 - 80 = 100^\circ$$

$$\angle B = \frac{1}{2} \times 100 = 50^\circ$$



Since $\triangle OBC$ is isosceles, $\angle OAB = 20^\circ$

$$\angle A = 40 + 20 = 60^\circ$$

$$\angle C = 40 + 30 = 70^\circ$$

iii) $\angle ABC = \frac{1}{2} \times 40^\circ = 20^\circ$

$$\angle BAC = \frac{1}{2} \times 70^\circ = 35^\circ$$

$$\angle AOB = 40^\circ + 70^\circ = 110^\circ$$

$$\angle ACB = 180 - \frac{110}{2}$$

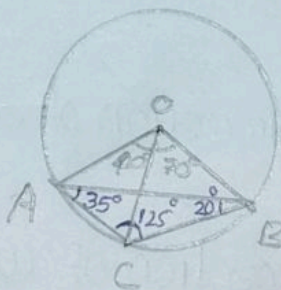
$$= 180 - 55$$

$$= 125^\circ$$

Since $\triangle OBC$ is isosceles

$$\angle OBC = \frac{1}{2} (180 - 70) = 55^\circ$$

$$\angle OCB = 55^\circ$$



2. Ans) The angles subtended by two adjacent numbers at the centre of the clock is 30° .

$$\angle AOB = 120^\circ$$

$$\therefore \angle ACB = 60^\circ$$

$$OA = OB$$

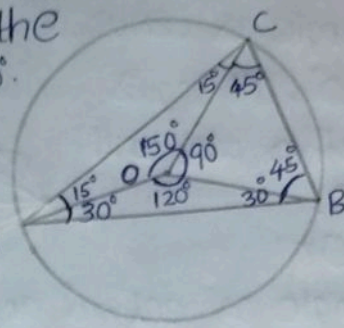
$$\therefore \angle OAB = \angle OBA = 30^\circ$$

$$\angle BOC = 90^\circ (\angle CAB = 15 + 30 = 45^\circ)$$

$$\angle COA = 150^\circ (\angle CBA = 75^\circ)$$

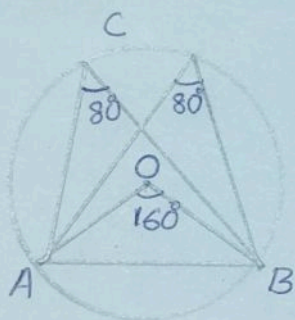
We can make 4 equilateral triangles by joining the numbers on the clock.

(1, 5, 9), (2, 6, 10), (3, 7, 11), (4, 8, 12)

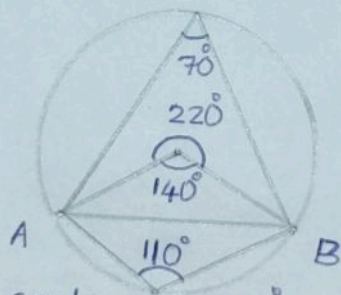


3. Ans) i) $\angle AOB = 160^\circ$

\therefore All angles in the arc ACB are 80° .



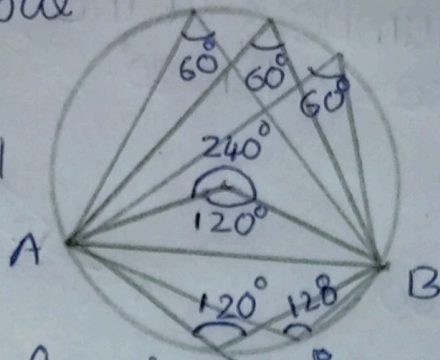
ii)



Draw central angle as 220°

\therefore angle on the small arc AB will be 110° .

iii) Draw angle as central angle 120° , all angles on the other part will be 60° .



Or

Draw angle as central angle 240° , all angles on the other part will be 120° .

iv) Draw a circle and draw central angle 144° , All angles on the other part will be 72° and all angles on the down A part will be 108° .

