



Exercise 4B

Question 3:

Since $\angle BOD$ and $\angle DOA$ form a linear pair of angles.

$$\Rightarrow \angle BOD + \angle DOA = 180^\circ$$

$$\Rightarrow \angle BOD + \angle DOC + \angle COA = 180^\circ$$

$$\Rightarrow x^\circ + (2x - 19)^\circ + (3x + 7)^\circ = 180^\circ$$

$$\Rightarrow 6x - 12 = 180$$

$$\Rightarrow 6x = 180 + 12 = 192$$

$$\Rightarrow x = 192/6 = 32$$

$$\Rightarrow x = 32$$

$$\Rightarrow \angle AOC = (3x + 7)^\circ = (3 \cdot 32 + 7)^\circ = 103^\circ$$

$$\Rightarrow \angle COD = (2x - 19)^\circ = (2 \cdot 32 - 19)^\circ = 45^\circ$$

$$\text{and } \angle BOD = x^\circ = 32^\circ$$

Question 4:

$$x : y : z = 5 : 4 : 6$$

The sum of their ratios = $5 + 4 + 6 = 15$

$$\text{But } x + y + z = 180^\circ$$

[Since, XOY is a straight line]

So, if the total sum of the measures is 15, then the measure of x is 5.

If the sum of angles is 180° , then, measure of $x = 5/15 \times 180 = 60$

And, if the total sum of the measures is 15, then the measure of y is 4.

If the sum of the angles is 180° , then, measure of $y = 4/15 \times 180 = 48$

$$\text{And } \angle z = 180^\circ - \angle x - \angle y$$

$$= 180^\circ - 60^\circ - 48^\circ$$

$$= 180^\circ - 108^\circ = 72^\circ$$

$$\therefore x = 60, y = 48 \text{ and } z = 72.$$

***** END *****