

20. In the figure sum of angles 360° .

$$5x + x + 80^\circ + 85^\circ + 123^\circ = 360^\circ$$

$$6x + 288^\circ = 360^\circ$$

$$6x = 72^\circ$$

$$x = 12^\circ$$

The value of $\angle AOB = 5x = 5(12) = 60^\circ$ and $\angle BOC = x = 12^\circ$

$$24. \quad 3 \frac{1}{2} y^\circ + 2y^\circ + 2y^\circ + 2 \frac{1}{2} y^\circ = 360^\circ$$

$$\frac{7y^\circ + 2y^\circ + 2y^\circ + 5y^\circ}{2} = 360^\circ \Rightarrow 20y^\circ = 720^\circ \Rightarrow y^\circ = 36^\circ$$

The value of $\angle AOB = 3 \frac{1}{2} y^\circ$ is

$$\angle AOB = 3 \frac{1}{2} (36^\circ)$$

$$= \frac{7}{2} (36) \Rightarrow 126^\circ$$

The value of $\angle BOC = \angle COD = 2y^\circ$ is,

$$= 2(36^\circ) = 72^\circ$$

The value of $\angle DOA = 2 \frac{1}{2} y^\circ$ is,

$$\angle DOA = 2 \frac{1}{2} (36) \Rightarrow \frac{5}{2} (36) = 90^\circ$$

25: (i) A/O, AB, CD and EF are intersecting each other.

The value of angles is given below.

$$\angle BOE = z^\circ$$

$$\angle AOC = y^\circ$$

$$\angle DOF = x^\circ$$

The vertical opposite angles apply on figure as,

$$\angle DOB = \angle AOC = y^\circ$$

$$\angle COE = \angle DOF = x^\circ$$

$$\angle AOF = \angle BOE = z^\circ$$

Now CD is a straight line.

$$x + y + z = 180^\circ$$

$$x + 45^\circ + 90^\circ = 180^\circ$$

$$x = 180^\circ - 135^\circ = 45^\circ$$

\therefore value of x is 45°