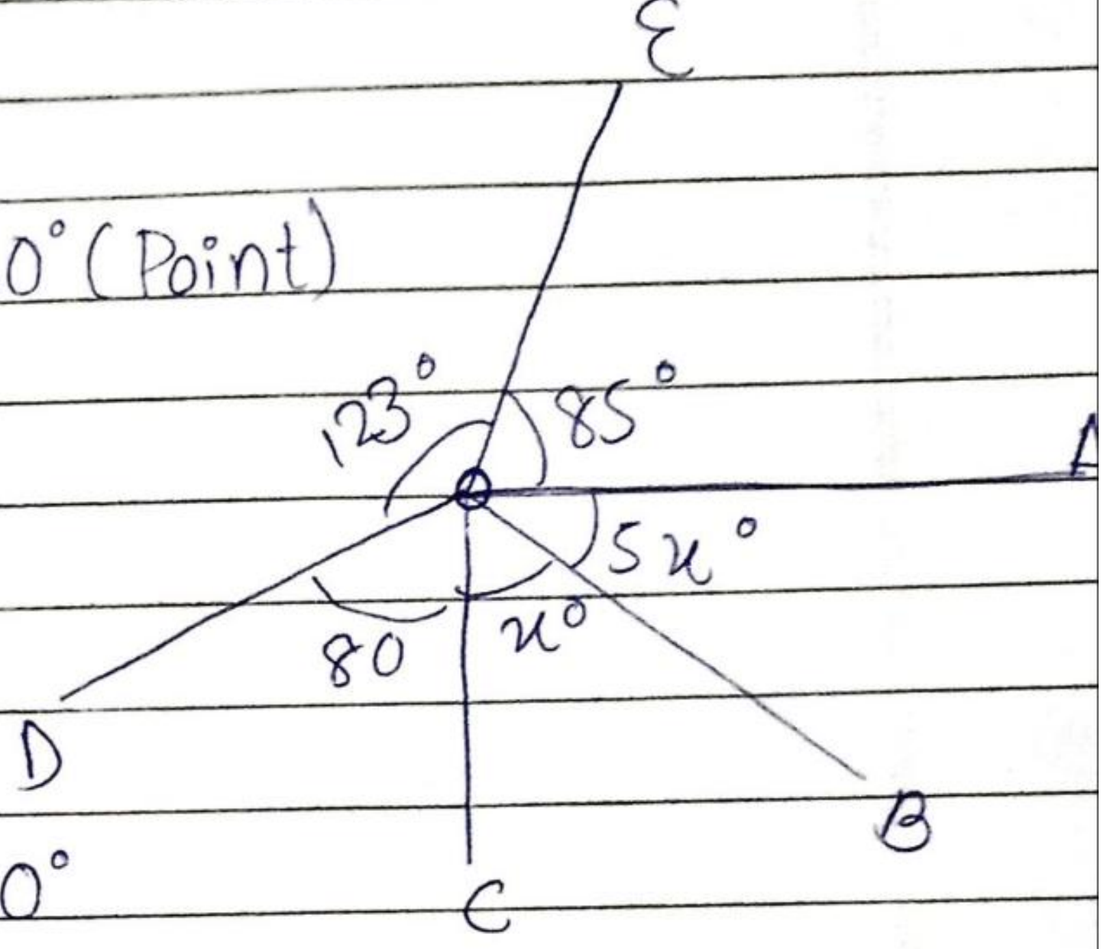
Homework
Mathematics
Solutions

Ex 14 A

23. Find $\angle AOB$ and $\angle BOC$



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

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

$= 6x^\circ = 360^\circ - 288^\circ = 72$

$= 6x^\circ = 72$

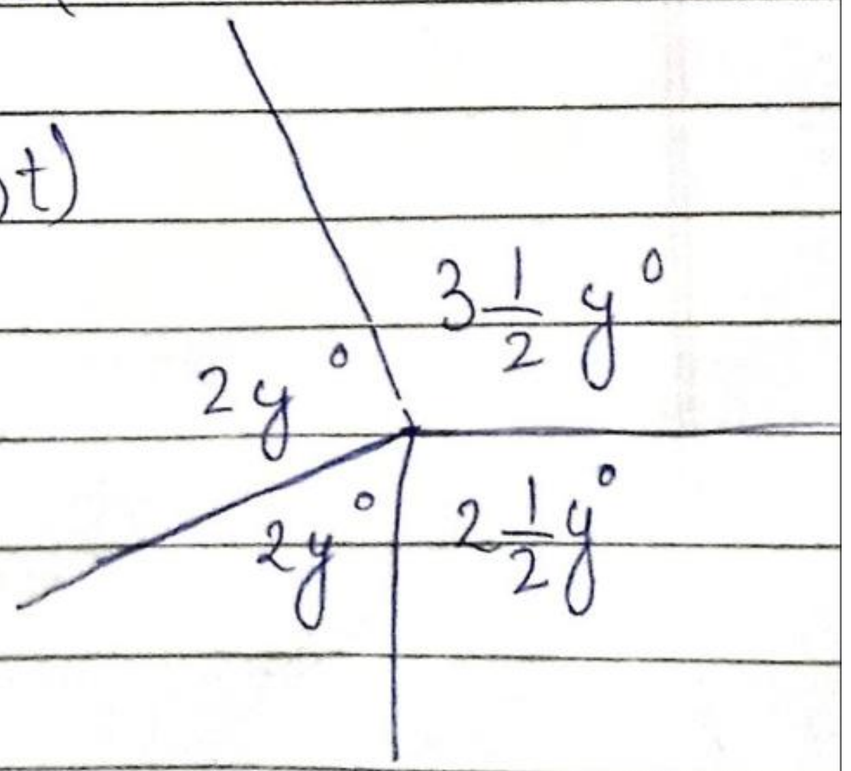
$= x^\circ = \frac{72}{6} = 12$

$= \angle AOB = 5x = 5 \times 12 = 60^\circ$

$= \angle BOC = x^\circ = 12^\circ$

$\therefore$ Hence $\angle AOB = 60^\circ$ and $\angle BOC = 12^\circ$

24. Find each angle shown in the figure



$2y^\circ + 2y^\circ + 2\frac{1}{2}y^\circ + 3\frac{1}{2}y^\circ = 360^\circ$ (Point)

$\frac{4y^\circ}{1} + \frac{5}{2}y^\circ + \frac{7}{2}y^\circ = 360^\circ$

$\frac{8}{2}y^\circ + \frac{5}{2}y^\circ + \frac{7}{2}y^\circ = 360^\circ$

$\frac{20^\circ y^\circ}{20} = \frac{360^\circ}{20}$

$20^\circ y^\circ = 360 \times 2 = 720$

$y^\circ = \frac{720}{20} = 36^\circ$

5 $y°$ $36°$

2 $y°$ 36×2 $72°$

2 $y°$ 36×2 $12°$ 12

$\frac{5}{2} y°$ $12\frac{1}{2} y°$ $\frac{5}{2} \times 36 = 90°$

$\frac{7}{2} y°$ / $3\frac{1}{2} y°$ $\frac{7}{2} \times 36 = 126°$ 18

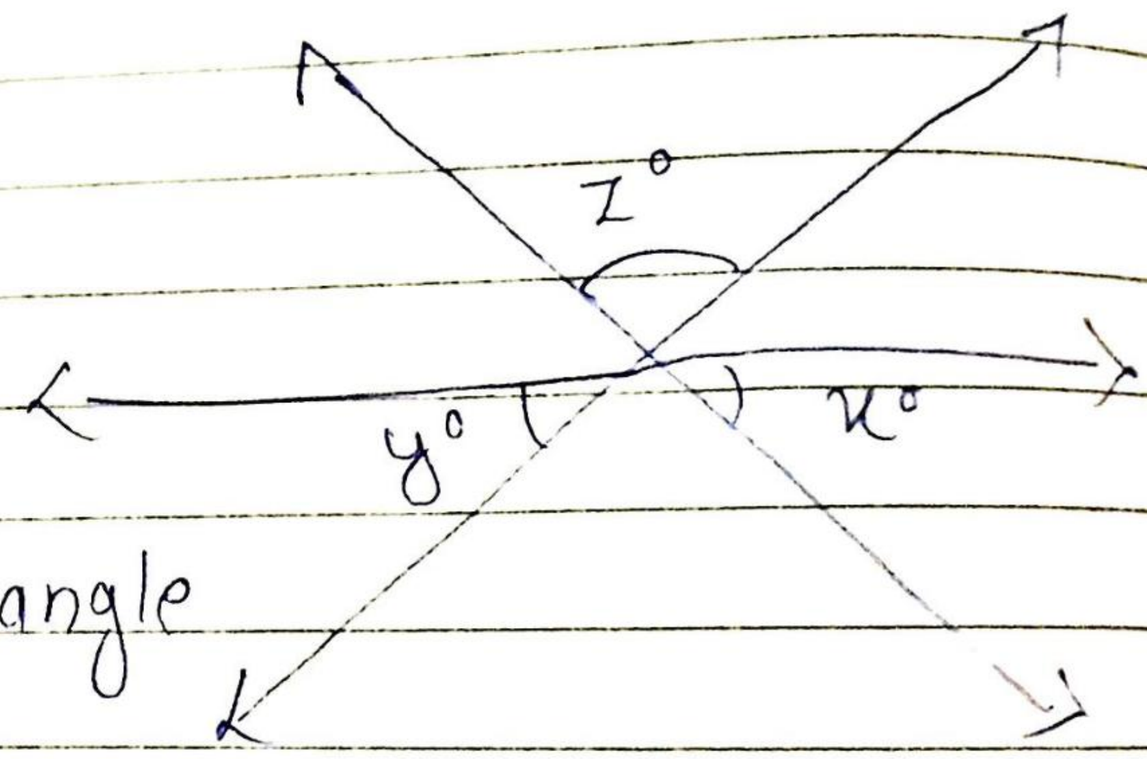
25. (i) if $y = 45°$ and $z = 90°$

$x = 45° + 90° + x° = 180°$

$135° + x° = 180°$

$x° = 180° - 135° = 45°$

$x° = 45°$ (vertically opposite angle to y)



(ii) $x = 3a$ $y = 5x$ and $z = 6x$

$x + 5x + 6x = 180°$ (given)

$12x = 180°$

$x = 180 / 12 = 15°$

$x = 3a$ (given)

$3a = 15°$

$a = 15/3 = 5°$