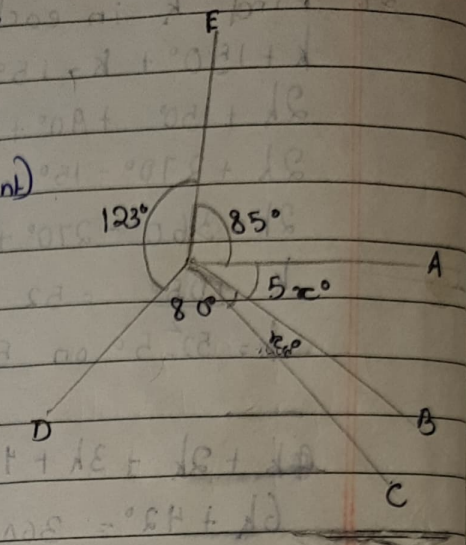
Name Soumya Priyadarshini

Std. VII ~~Div.~~ Sec - B

23. In the given figure, find $\angle AOB$ and $\angle BOC$



$5x + x + 80° + 123° + 85° = 360°$ (Angles at a point)

$6x + 80° + 123° + 85° = 360°$

$6x + 288° = 360°$

$6x = 360° - 288° = 72°$

$x = \frac{72°}{6} = 12°$

$\angle AOB = 5x = 5 \times 12° = 60°$

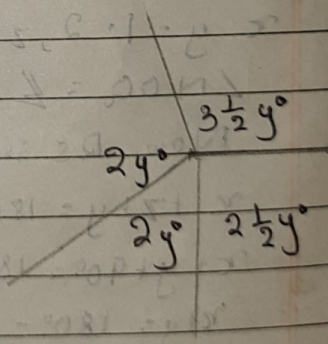
and $\angle BOC$ $x = 12°$

24. Find each angle shown in the figure.

$3\frac{1}{2}y° + 2y° + 2y° + 2\frac{1}{2}y° = 360°$ (Angles at a point)

$\frac{7}{2}y° + 2y° + 2y° + \frac{5}{2}y° = 360°$

$\frac{7}{2}y° + \frac{5}{2}y° + 4y° = 360°$



$\frac{12}{2}y° + 4y° = 360°$

$6y° + 4y° = 360°$

$10y° = 360°$

$y = \frac{360°}{10} = 36°$

$\angle AOB = 3\frac{1}{2}y° = \frac{7}{2}y° = \frac{7}{2} \times 36° = 126°$

$\angle BOC = 2y° = 2 \times 36 = 72°$

$\angle COD = 2y° = 72°$

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

25. AB, CD and EF are 3 lines intersecting at the same point.

AB, CD and EF are intersecting each other at O

and $\angle DOF = x°$, $\angle AOC = y°$ and $\angle BOE = z°$

But $\angle DOB = \angle AOC = y°$ (vertically opposite angles)

$\angle COF = \angle DOF = x°$ and $\angle AOF = \angle BOE$ (vertically opposite angles)

CD is a straight line

$\angle COE + \angle BOE + \angle DOB = 180°$

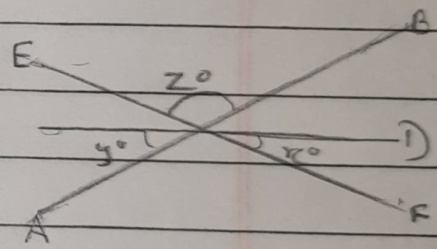
$x° + z° + y° = 180°$

i) Find x if $y = 45°$ and $z = 90°$

If $y = 45°$ and $z = 90°$ then

$x° + 45° + 90° = 180° \Rightarrow x° + 135° = 180°$

$x° = 180° - 135° = 45°$



ii) Find a, if $x = 3a$, $y = 5x$ and $n = 6x$

~~If $x = 45° + 90° = 180°$~~

~~$6x + 135$~~

If $x = 3a$, $y = 5x$, $z = 6x$,

Then $x + y + z = 180°$

$x + 5x + 6x + 180°$

$12x = 180°$

$x = \frac{180°}{12} = 15°$

But $x = 3a$

$3a = 15°$ $\quad a = 15° \div 3 = 5°$

So $a = 5°$