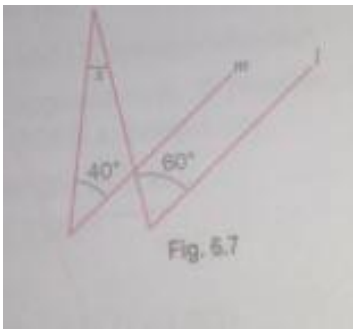
Short Answer Type Questions – I

[2 MARKS]

Que 1. In Fig. 6.7, if $l \parallel m$, then find the value of x.

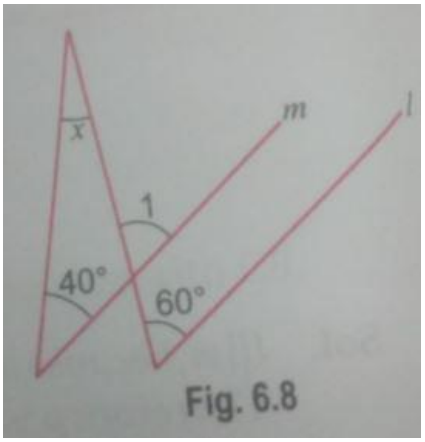


Sol. $\because$ $l \parallel m$

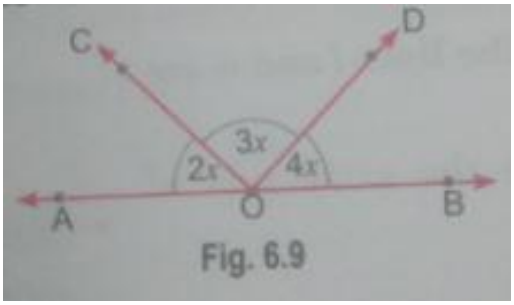
$\therefore$ $\angle 1 = 60^0$ (Corresponding angle)

Now, $\angle x + 40^0 = \angle 1$ (Exterior angle property)

$\Rightarrow$ $\angle x = 60^0 - 40^0 = 20^0$



Que 2. In Fig. 6.9, find the value of x.



Sol. $2x + 3x + 4x = 180^0$ (Straight angle)

$\Rightarrow \quad 9x = 180^0$

$\therefore \quad x = 20^0.$

Que 3. If the ratio between two complementary angles is 2: 3, then find the angles.

Sol. Let the two complementary angles be $2x$ and $3x$.

$\therefore\ 2x + 3x = 90^0 \ \Rightarrow\ 5x = 90^0 \ \Rightarrow x = 18^0$

$\therefore$ The angles are $2 \times 18^0 = 36^0$ and $3 \times 18^0 = 54^0$.

Que 4. If the difference between two supplementary angles is 40^0 , then find the angles.

Sol. Let the two supplementary angles be x and $x + 40^0$.

$\therefore \quad x + x + 40^0 = 180^0 \quad \Rightarrow \quad 2x = 180^0 - 40^0$

$\Rightarrow \quad 2x = 140^0 \quad \Rightarrow \quad x = 70^0$

Also $x + 40^0 = 70^0 + 40^0 = 110^0.$

Que 5. In Fig. 6.10, if $m \parallel n$, then find the value of x.

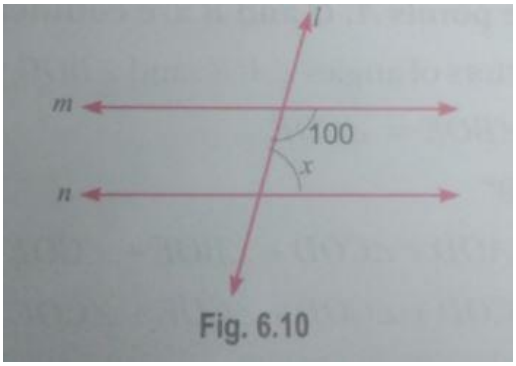


Fig. 6.10

Sol. $100^0 + x = 180^0$ (Cointerior angles are supplementary)

$\Rightarrow \quad x = 180^0 - 100^0 = 80^0.$

Que 6. An exterior angle of a triangle is 110^0 and its two interior opposite angles are equal. Find each of these equal angles.

Sol. Let each of the interior opposite angles be x.

$\therefore$ An exterior angle is equal to sum of its two interior opposite angles.

Then $x + x = 100^0$ or $x = \frac{110^0}{2} = 55^0$

Que 7. In a $\Delta ABC, \angle A + \angle B = 110^0, \angle C + \angle A = 135^0$. Find $\angle A$.

Sol. Given $\angle A + \angle B = 110^0, \angle C + \angle A = 135^0$

On adding, we get

$\angle A + \angle B + \angle C + \angle A = 110^0 + 135^0$

$\Rightarrow \quad 180^0 + \angle A = 245^0$ (Using angle sum property of Δ)

$\Rightarrow \quad \angle A = 245^0 - 180^0 = 65^0.$