Exercise 4D

Question 6:
Since, $\angle P$, $\angle Q$ and $\angle R$ are the angles of a triangle.
So, $\angle P + \angle Q + \angle R = 180^O$ ....(i)
Now, $\angle P - \angle Q = 42^O$ [Given]
$\Rightarrow \angle P = 42^O + \angle Q$ ....(ii)
and $\angle Q - \angle R = 21^O$ [Given]
$\Rightarrow \angle R = \angle Q - 21^O$ ....(iii)
Substituting the value of $\angle P$ and $\angle R$ from (ii) and (iii) in (i), we get,
$\Rightarrow 42^O + \angle Q + \angle Q + \angle Q - 21^O = 180^O$
$\Rightarrow 3\angle Q + 21^O = 180^O$
$\Rightarrow 3\angle Q = 180^O - 21^O = 159^O$
$\angle Q = 159/3 = 53^O$
$\therefore \angle P = 42^O + \angle Q$
$= 42^O + 53^O = 95^O$
$\angle R = \angle Q - 21^O$
$= 53^O - 21^O = 32^O$
$\therefore \angle P = 95^O$, $\angle Q = 53^O$ and $\angle R = 32^O$.

Question 7:
Given that the sum of the angles A and B of a ABC is 116°, i.e., $\angle A + \angle B = 116^O$.
Since, $\angle A + \angle B + \angle C = 180^O$
So, $116^O + \angle C = 180^O$
$\Rightarrow \angle C = 180^O - 116^O = 64^O$
Also, it is given that:
$\angle A - \angle B = 24^O$
$\Rightarrow \angle A = 24^O + \angle B$
Putting, $\angle A = 24^O + \angle B$ in $\angle A + \angle B = 116^O$, we get,
$\Rightarrow 24^O + \angle B + \angle B = 116^O$
$\Rightarrow 2\angle B + 24^O = 116^O$
$\Rightarrow 2\angle B = 116^O - 24^O = 92^O$
$\angle B = 92/2 = 46^O$
Therefore, $\angle A = 24^O + 46^O = 70^O$
$\therefore \angle A = 70^O$, $\angle B = 46^O$ and $\angle C = 64^O$.

*********** END **********