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 $116^o$, 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 **********