Exercise 4D

Question 8:

Let the two equal angles, A and B, of the triangle be x^o each.

We know,

$\angle A + \angle B + \angle C = 180^o$

$\Rightarrow x^o + x^o + \angle C = 180^o$

$\Rightarrow 2x^o + \angle C = 180^o$ ....(i)

Also, it is given that,

$\angle C = x^o + 18^o$ ....(ii)

Substituting $\angle C$ from (ii) in (i), we get,

$\Rightarrow 2x^o + x^o + 18^o = 180^o$

$\Rightarrow 3x^o = 180^o - 18^o = 162^o$

$x = 162/3 = 54^o$

Thus, the required angles of the triangle are 54^o, 54^o and $x^o + 18^o = 54^o + 18^o = 72^o$.

Question 9:

Let $\angle C$ be the smallest angle of ABC.

Then, $\angle A = 2\angle C$ and $B = 3\angle C$

Also, $\angle A + \angle B + \angle C = 180^o$

$\Rightarrow 2\angle C + 3\angle C + \angle C = 180^o$

$\Rightarrow 6\angle C = 180^o$

$\Rightarrow \angle C = 30^o$

So, $\angle A = 2\angle C = 2\ (30^o) = 60^o$

$\angle B = 3\angle C = 3\ (30^o) = 90^o$

$\therefore$ The required angles of the triangle are 60^o, 90^o, 30^o.

Question 10:

Let ABC be a right angled triangle and $\angle C = 90^o$

Since, $\angle A + \angle B + \angle C = 180^o$

$\Rightarrow \angle A + \angle B = 180^o - \angle C = 180^o - 90^o = 90^o$

Suppose $\angle A = 53^o$

Then, $53^o + \angle B = 90^o$

$\Rightarrow \angle B = 90^o - 53^o = 37^o$

$\therefore$ The required angles are 53^o, 37^o and 90^o.

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