Exercise 4D

Question 14:
Let ABC be a triangle and $\angle B > \angle A + \angle C$
Since, $\angle A + \angle B + \angle C = 180^\circ$
$\Rightarrow \angle A + \angle C = 180^\circ - \angle B$
Therefore, we get
$\angle B > 180^\circ - \angle B$
Adding $\angle B$ on both sides of the inequality, we get,
$\Rightarrow \angle B + \angle B > 180^\circ - \angle B + \angle B$
$\Rightarrow 2\angle B > 180^\circ$
$\Rightarrow \angle B > 180/2 = 90^\circ$
i.e., $\angle B > 90^\circ$ which means $\angle B$ is an obtuse angle.
ΔABC is an obtuse angled triangle.

Question 15:
Since $\angle ACB$ and $\angle ACD$ form a linear pair.
So, $\angle ACB + \angle ACD = 180^\circ$
$\Rightarrow \angle ACB + 128^\circ = 180^\circ$
$\Rightarrow \angle ACB = 180^\circ - 128 = 52^\circ$
Also, $\angle ABC + \angle ACB + \angle BAC = 180^\circ$
$\Rightarrow 43^\circ + 52^\circ + \angle BAC = 180^\circ$
$\Rightarrow 95^\circ + \angle BAC = 180^\circ$
$\Rightarrow \angle BAC = 180^\circ - 95^\circ = 85^\circ$
$\therefore \angle ACB = 52^\circ$ and $\angle BAC = 85^\circ$.

Question 16:
As $\angle DBA$ and $\angle ABC$ form a linear pair.
So, $\angle DBA + \angle ABC = 180^\circ$
$\Rightarrow 106^\circ + \angle ABC = 180^\circ$
$\Rightarrow \angle ABC = 180^\circ - 106^\circ = 74^\circ$
Also, $\angle ACB$ and $\angle ACE$ form a linear pair.
So, $\angle ACB + \angle ACE = 180^\circ$
$\Rightarrow \angle ACB + 118^\circ = 180^\circ$
$\Rightarrow \angle ACB = 180^\circ - 118^\circ = 62^\circ$
In $\angle ABC$, we have,
$\angle ABC + \angle ACB + \angle BAC = 180^\circ$
$74^\circ + 62^\circ + \angle BAC = 180^\circ$
$\Rightarrow 136^\circ + \angle BAC = 180^\circ$
$\Rightarrow \angle BAC = 180^\circ - 136^\circ = 44^\circ$
$\therefore$ In triangle ABC, $\angle A = 44^\circ$, $\angle B = 74^\circ$ and $\angle C = 62^\circ$

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