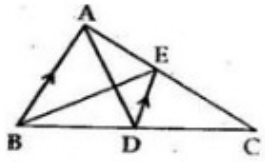
Exercise 9C

Question 4:

Given: A ΔABC in which AD is its median and $DE \| AB$



To Prove : BE is a median of ΔABC.

Proof :In ΔABC,

$DE \| AB$ [Given]

D is the mid – point of BC.

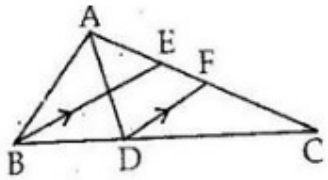
The line drawn through the midpoint of one side of a triangle, parallel to another side, intersects the third side at its midpoint.

So, by Mid point Theorem , E is the mid – point of AC.

$\therefore$ BE is the median of ΔABC drawn through B.

Question 5:

Given : A ΔABC in which AD and BE are the medians. DF is drawn parallel to BE.



To prove : $CF = \frac{1}{4}AC$

Proof :In ΔCBE,

D is the mid point of BC and DF is parallel to BE.

The line drawn through the midpoint of one side of a triangle, parallel to another side, intersects the third side at its midpoint.

So, by Mid point Theorem F is the mid point of EC.

$\therefore CF = \frac{1}{2}EC$

$= \frac{1}{2}\left(\frac{1}{2}AC\right)$ [BE is the median through B]

$= \frac{1}{4}AC.$

Thus, $CF = \frac{1}{4}AC.$

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