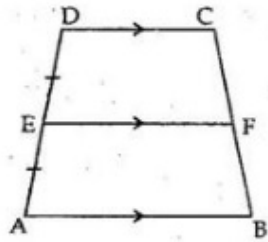




### Exercise 9C

Question 1:

Given : ABCD is trapezium in which  $AB \parallel DC$  and through the mid-point E of AD a line drawn parallel to AB which cuts BC at F.



To prove : F is the mid – point of BC

Pr oof : Since  $AB \parallel DC$  and  $EF \parallel AB$

So,  $AB \parallel EF \parallel DC$

Intercept Theorem: If there are three parallel lines and the intercepts made by them on one transversal are equal then the intercept on any other transversal are also equal.

Now AD is a transversal and therefore,

Let us apply Intercepts Theorem.

Thus, the intercepts made by AB, EF and DC on transversal BC are also equal

$\therefore CF = FB$

$\therefore$  F is mid – Point of BC.

\*\*\*\*\* END \*\*\*\*\*