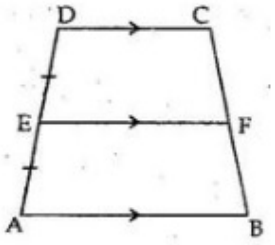
Exercise 9C

Question 1:

Given : ABCD is trapezium in which AB ||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

Proof : Since AB || DC and EF || AB

So, AB || EF || 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

$\therefore \quad CF = FB$

$\therefore$ F is mid – Point of BC.

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