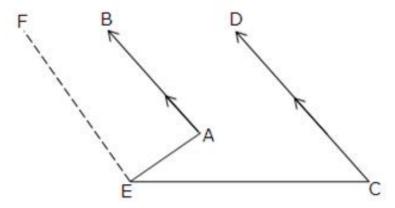


Exercise 4C

Question 7: Given: AB || CD

To Prove: ∠BAE - ∠DCE = ∠AEC



Construction : Through E draw EF || AB Proof : Since EF || AB, AE is a transversal.

So,  $\angle BAE + \angle AEF = 180^{\circ}$  ....(i)

[sum of consecutive interior angles is 180°]

As EF || AB and AB || CD [Given] So, EF || CD and EC is a transversal.

So, ∠FEC + ∠DCE = 180° ....(ii)

[sum of consecutive interior angles is 180°]

From (i) and (ii) we get,

 $\angle$ BAE +  $\angle$ AEF =  $\angle$ FEC +  $\angle$ DCE

 $\Rightarrow \angle BAE - \angle DCE = \angle FEC - \angle AEF = \angle AEC [Proved]$ 

## Question 8:

Since AB  $\parallel$  CD and BC is a transversal.

So,  $\angle BCD = \angle ABC = x^{O}$  [Alternate angles]

As BC  $\parallel$  ED and CD is a transversal.

 $\angle BCD + \angle EDC = 180^{\circ}$ 

 $\Rightarrow$   $\angle$ BCD + 75 $^{\circ}$  =180 $^{\circ}$ 

 $\Rightarrow$   $\angle$ BCD = 180 $^{\circ}$  - 75 $^{\circ}$  = 105 $^{\circ}$ 

 $\angle ABC = 105^{\circ}$  [since  $\angle BCD = \angle ABC$ ]

 $\therefore x^{\circ} = \angle ABC = 105^{\circ}$ 

Hence, x = 105.

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