

Mathematics

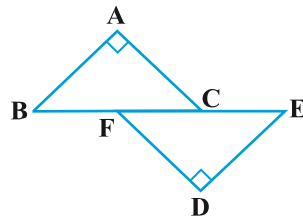
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(Chapter – 7) (Triangles)(Exemplar Problems)
(Class – IX)

Exercise 7.3

Question 4:

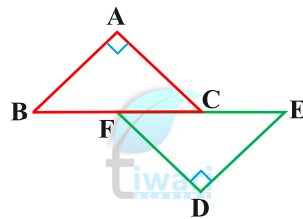
In Figure, $BA \perp AC$, $DE \perp DF$ such that $BA = DE$ and $BF = EC$. Show that $\triangle ABC \cong \triangle DEF$.



Answer 4:

Given: $BA \perp AC$, $DE \perp DF$ & $BA = DE$ and $BF = EC$.

To Prove: $\triangle ABC \cong \triangle DEF$.



Proof: $BF = EC$

[\because Given]

Adding FC both sides, we get

$$BF + FC = EC + FC$$

$$\Rightarrow BC = EF$$

Now, in $\triangle ABC$ & $\triangle DEF$

$$\angle BAC = \angle EDF$$

[\because Each 90°]

$$BC = EF$$

[\because Proved above]

$$BA = DE$$

[\because Given]

$$\triangle ABC \cong \triangle DEF$$

[\because RHS rule]

Hence Proved.

