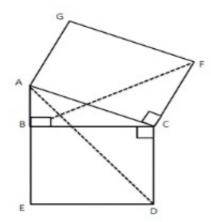


Exercise 5A

Question 23:

Given: ABC is atriangle, right angled at B. ACFG is a a square and BCDE is a square.



To prove: AD= EF

Proof: Since BCDE is a square,

$$\angle BCD = 90^0 \dots (1)$$

In ΔACD,

$$=\angle ACB + 90^0 \dots (2)$$

In ΔBCF,

$$\angle BCF = \angle BCA + \angle ACF$$

Since ACFG is a square,

Thus, we have

$$\angle BCF = \angle BCA + 90^{\circ}$$
(3)

From (2) and (3), we have

Thus in $\triangle ACD$ and $\triangle BCF$, we have

$$\angle ACD = \angle BCF$$
 [from (4)]

Thus, by Side-Angle-Side criterion of congruence, we have

The corresponding parts of congruent triangles are equal.

So,
$$AD = BF$$
 (C.P.C.T)

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