



## Areas of Parallelograms and Triangles Ex 15.2 Q1

**Answer :**

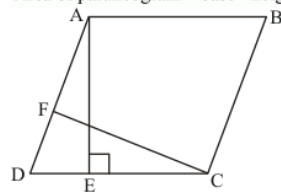
**Given:** Here in the question it is given

- (1) ABCD is a parallelogram,
- (2)  $AE \perp DC$  and
- (3)  $CF \perp AD$ ,  $AB = 16$  cm
- (4)  $AE = 8$  cm
- (5)  $CF = 10$  cm

**To Find :**  $AD = ?$

**Calculation:** We know that formula for calculating the

Area of parallelogram = base  $\times$  height



Therefore,

Area of parallelogram ABCD =  $DC \times AE$  (Taking base as DC and Height as AE )

Area of parallelogram ABCD =  $AB \times AE$  ( $AB = DC$  as opposite side of the parallelogram are equal)

Therefore,

$$\text{Area of parallelogram ABCD} = 16 \times 8 \dots\dots(1)$$

Taking the base of Parallelogram ABCD as AD we get

Area of parallelogram ABCD =  $AD \times CF$  (taking base as AD and height as CF)

$$\text{Area of parallelogram ABCD} = AD \times 10 \dots\dots(2)$$

Since equation 1 and 2 both represent the Area of the same Parallelogram ABCD , both should be equal.

Hence fro equation (1) and (2),

This means that,

$$16 \times 8 = AD \times 10$$

$$AD = \frac{16 \times 8}{10}$$

$$AD = \boxed{12.8 \text{ cm}}$$

Hence we get the result as  $AD = \boxed{12.8 \text{ cm}}$

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