



Mensuration I Ex 20.3 Q7

Answer :

We have,

$ABCD$ is a parallelogram with base $AB = 20$ cm and corresponding altitude DL .

It is given that the area of the parallelogram $ABCD = 100 \text{ cm}^2$

Now,

Area of a parallelogram = Base \times Height

$$100 \text{ cm}^2 = AB \times DL$$

$$100 \text{ cm}^2 = 20 \text{ cm} \times DL$$

$$\therefore DL = \frac{100 \text{ cm}^2}{20 \text{ cm}} = 5 \text{ cm}$$

Again by Pythagoras theorem, we have,

$$(AD)^2 = (AL)^2 + (DL)^2$$

$$\Rightarrow (13)^2 = (AL)^2 + (5)^2$$

$$\Rightarrow (AL)^2 = (13)^2 - (5)^2$$

$$= 169 - 25 = 144$$

$$\Rightarrow (AL)^2 = (12)^2$$

$$\Rightarrow AL = 12 \text{ cm}$$

Hence, length of AL is 12 cm.

Mensuration I Ex 20.3 Q8

Answer :

We have,

$ABCD$ is a parallelogram with base $AB = 35$ cm and corresponding altitude DL . The adjacent side of the parallelogram $AD = 20$ cm.

It is given that the area of the parallelogram $ABCD = 560 \text{ cm}^2$

Now,

Area of the parallelogram = Base \times Height

$$560 \text{ cm}^2 = AB \times DL$$

$$560 \text{ cm}^2 = 35 \text{ cm} \times DL$$

$$\therefore DL = \frac{560 \text{ cm}^2}{35 \text{ cm}} = 16 \text{ cm}$$

Again by Pythagoras theorem, we have,

$$(AD)^2 = (AL)^2 + (DL)^2$$

$$\Rightarrow (20)^2 = (AL)^2 + (16)^2$$

$$\Rightarrow (AL)^2 = (20)^2 - (16)^2$$

$$= 400 - 256 = 144$$

$$\Rightarrow (AL)^2 = (12)^2$$

$$\Rightarrow AL = 12 \text{ cm}$$

From the figure,

$$AB = AL + LB$$

$$35 \text{ cm} = 12 \text{ cm} + LB$$

$$\therefore LB = 35 \text{ cm} - 12 \text{ cm}$$

$$= 23 \text{ cm}$$

Hence, length of LB is 23 cm.

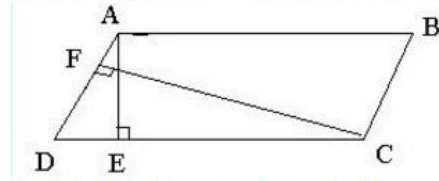
Mensuration I Ex 20.3 Q9

Answer :

We have,

$ABCD$ is a parallelogram with side $AB = 10$ m and corresponding altitude $AE = 4$ m.

The adjacent side $AD = 8$ m and the corresponding altitude is CF .



Area of a parallelogram = Base \times Height

We have two altitudes and two corresponding bases. So,

$$AD \times CF = AB \times AE$$

$$\Rightarrow 8 \text{ m} \times CF = 10 \text{ m} \times 4 \text{ m}$$

$$\Rightarrow CF = \frac{10 \times 4}{8} = 5 \text{ m}$$

Hence, the distance between the shorter sides is 5 m.

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