

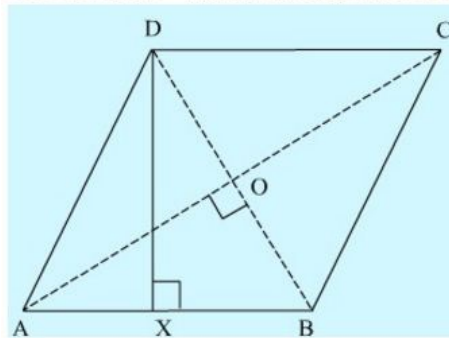


Mensuration I Ex 20.3 Q13

Answer :

We have,

Side of a square = 4 m and one diagonal of a square = $2\sqrt{2}$ m



Area of the rhombus = Area of the square of side 4 m

$$\Rightarrow \left(\frac{1}{2} \times AC \times BD \right) = (4\sqrt{2})^2$$

$$\Rightarrow \left(\frac{1}{2} \times AC \times 2\sqrt{2} \right) = 64$$

$$\Rightarrow AC = 16\sqrt{2} \text{ m}$$

We know that the diagonals of a rhombus are perpendicular bisectors of each other.

$$\Rightarrow AO = \frac{1}{2} AC = 16\sqrt{2} \text{ m and } BO = \frac{1}{2} BD = 4\sqrt{2} \text{ m}$$

By Pythagoras theorem, we have:

$$AO^2 + BO^2 = AB^2$$

$$\Rightarrow AB^2 = (16\sqrt{2})^2 + (4\sqrt{2})^2 = 512 + 64 = 576 \text{ m}^2$$

$$\Rightarrow \text{Side of a rhombus} = AB = \sqrt{576} \text{ m.}$$

Let DX be the altitude.

$$\text{Area of the rhombus} = AB \times DX$$

$$576 \text{ m}^2 = 24 \text{ m} \times DX$$

$$\therefore DX = \frac{576}{24} \text{ m}$$

$$\text{Hence, the altitude of the rhombus will be } 24 \text{ m.}$$

Mensuration I Ex 20.3 Q14

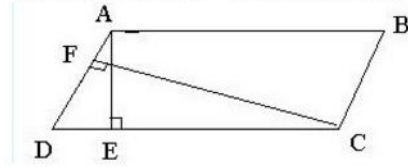
Answer :

We have,

$ABCD$ is a parallelogram with longer side $AB = 25$ cm and altitude $AE = 10$ cm.

As $ABCD$ is a parallelogram .hence $AB=CD$ (opposite sides of parallelogram are equal)

The shorter side is $AD = 20$ cm and the corresponding altitude is CF .



Area of a parallelogram = Base \times Height

We have two altitudes and two corresponding bases.

So,

$$\Rightarrow AD \times CF = CD \times AE$$

$$\Rightarrow 20 \times CF = 25 \times 10$$

$$\therefore CF =$$

Hence, the altitude corresponding to the other pair of the side AD is 12.5 cm.

***** END *****