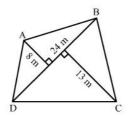


Mensuration-I area of a trapezium and a polygon Ex 20.1 Q10

Answer:



Given

Diagonal of a quadrilateral shaped field = 24 m

Perpendiculars dropped on it from the remaining opposite vertices are $8\,\mathrm{m}$ and $13\,\mathrm{m}.$

Now, we know:

Area =
$$\frac{1}{2} \times d \times (h_1 + h_2)$$

$$\therefore$$
 Area of the field $= \frac{1}{2} \times 24 \times (8+13)$

$$= 12 \times 21$$

$$= 252 \text{ m}^2$$

Mensuration-I area of a trapezium and a polygon Ex 20.1 Q11 Answer:

and the second states

Given:

Side of the rhombus = 6 cm

Altitude = 4 cm

One of the diagonals = 8 cm

Area of the rhombus = Side \times Altitude = $6 \times 4 = 24 \text{ cm}^2$ (i)

We know: Area of rhombus $= \frac{1}{2} \times d_1 \times d_2$

Using (i):

$$24 \ = \ \tfrac{1}{2} \times d_1 \times d_2$$

$$24 = \frac{1}{2} \times 8 \times d_2$$

$$d_2 = 6 \text{ cm}$$

Mensuration-I area of a trapezium and a polygon Ex 20.1 Q12

Answer:

Given:

The floor consist of 3000 rhombus shaped tiles.

The lengths of the diagonals of each tile are 45 cm and 30 cm.

$$\therefore$$
 Area of a rhombus shaped tile $=\frac{1}{2} \times (45 \times 30) = 675 \text{ cm}^2$

$$\therefore$$
 Area of the complete floor = $3000 \times 675 = 2025000 \text{ cm}^2$

Now, we need to convert this area into m^2 because the rate of polishing is given as per m^2 .

$$\therefore 2025000 \text{ cm}^2 = 2025000 \times \text{cm} \times \text{cm}$$

$$= 2025000 \times \frac{1}{100} \text{ m} \times \frac{1}{100} \text{ m}$$

$$= 202.5 \text{ m}^2$$

Now, the cost of polishing 1 m² is Rs 4.

... Total cost of polishing the complete floor = $202.5 \times 4 = 810$

Thus, the total cost of polishing the floor is Rs 810.