Mensuration-I area of a trapezium and a polygon Ex 20.1 Q19

Answer :

Given:
Area of the rhombus $= 84\ m^2$
Perimeter $= 40\ m$
Now, we know: Perimeter of the rhombus $= 4 \times$ Side
$\therefore\ 40 = 4 \times$ Side
Side $= \frac{40}{4} = 10\ m$
Again, we know: Area of the rhombus $=$ Side $\times$ Altitude
$\Rightarrow 84 = 10 \times$ Altitude
Altitude $= \frac{84}{10} = 8.4\ m$
Hence, the altitude of the rhombus is 8.4 m.

Mensuration-I area of a trapezium and a polygon Ex 20.1 Q20

Answer :

Given:
Side of the rhombus shaped garden $= 30\ m$
Altitude $= 16\ m$
Now, area of a rhombus $=$ side $\times$ altitude
$\therefore$ Area of the given garden $= 30 \times 16 = 480\ m^2$
Also, it is given that the rate of levelling the garden is Rs 2 per $1\ m^2$.
$\therefore$ Total cost of levelling the complete garden of area $480\ m^2 = 480 \times 2 =$ Rs 960

Mensuration-I area of a trapezium and a polygon Ex 20.1 Q21

Answer :

Given:
Each side of a rhombus shaped field $= 64\ m$
Altitude $= 16\ m$
We know: Area of rhombus $=$ Side $\times$ Altitude
$\therefore$ Area of the field $= 64 \times 16 = 1024\ m^2$
Given: Area of the square field $=$ Area of the rhombus
We know: Area of a square $= (\text{Side})^2$
$\therefore\ 1024 = (\text{Side})^2$
$\Rightarrow$ Side $= \sqrt{1024} = 32\ m$
Thus, the side of the square field is 32 m.

Mensuration-I area of a trapezium and a polygon Ex 20.1 Q22

Answer :

Given:
Area of the rhombus = Area of the triangle with base 24.8 cm and altitude 16.5 cm
Area of the triangle = $\frac{1}{2}$ ×base×altitude = $\frac{1}{2}$ ×24.8×16.5=204.6 cm^2
∴ Area of the rhombus = 204.6 cm^2
Also, length of one of the diagonals of the rhombus=22 cm

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

$204.6 = \frac{1}{2}\left(22 \times d_2\right)$

$22 \times d_2$=409.2

$d_2 = \frac{409.2}{22}$ =18.6 cm

Hence, the length of the other diagonal of the rhombus is 18.6 cm.

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