Mensuration I Ex 20.4 Q13

Answer :

We have,

(i) P is the midpoint of AD.

Thus $AP = PD = 25$ cm and $AB = CD = 20$ cm

From the figure, we observed that,

Area of $\Delta\, APB$ = Area of $\Delta\, PDC$

Area of Δ APB $= \frac{1}{2} \times AB \times AP$

$= \frac{1}{2} \times 20 \text{ cm} \times 25 \text{ cm} = 250 \text{ cm}^2$

Area of $\Delta\, PDC$ = Area of $\Delta\, APB = 250 \text{ cm}^2$

Area of $\Delta\, RPQ = \frac{1}{2} \times$ Base x Height

$= \frac{1}{2} \times 25 \text{ cm} \times 10 \text{ cm} = 125 \text{ cm}^2$

Hence,

Sum of the three triangles $= (250 + 250 + 125) \text{ cm}^2$

$= 625 \text{ cm}^2$

(ii) Area of the rectangle $ABCD = 50 \text{ cm} \times 20 \text{ cm} = 1000 \text{ cm}^2$

Thus,

Area of the rectangle − Sum of the areas of three triangles (There is a mistake in the question; it should be area of three triangles)

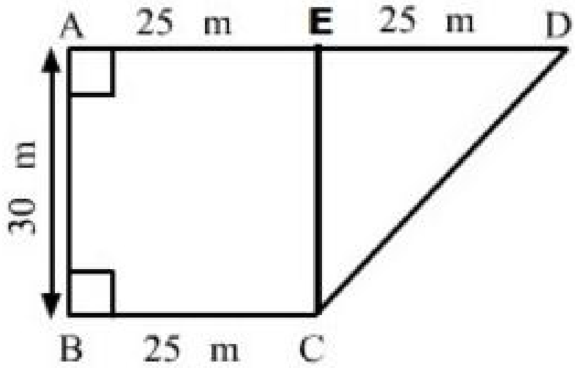
$= (1000 - 625) \text{ cm}^2 = 375 \text{ cm}^2$

Mensuration I Ex 20.4 Q14

Answer :

We have,

Join *CE*, which intersect *AD* at point *E*.



Here, $AE = ED = BC = 25$ m and $EC = AB = 30$ m

Area of the rectangle $ABCE = AB \times BC$

$= 30 \text{ m} \times 25 \text{ m}$

$= 750 \text{ m}^2$

Area of $\Delta\ CED = \frac{1}{2} \times EC \times ED$

$= \frac{1}{2} \times 30 \text{ m} \times 25 \text{ m}$

$= 375 \text{ m}^2$

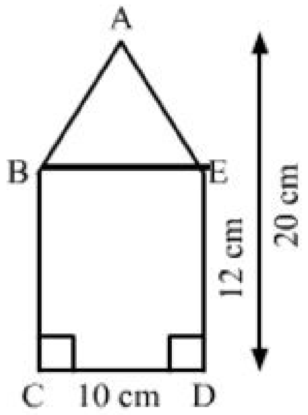
Hence,

Area of the quadrilateral $ABCD = (750 + 375) \text{ m}^2$

$= 1125 \text{ m}^2$

Mensuration I Ex 20.4 Q15

Answer :



Join *BE*.

Area of the rectangle *BCDE* = *CD* x *DE*

$= 10 \text{ cm} \times 12 \text{ cm} = 120 \text{ cm}^2$

Area of $\Delta ABE = \frac{1}{2} \times BE \times$ height of the triangle

$= \frac{1}{2} \times 10 \text{ cm} \times (20 - 12) \text{ cm}$

$= \frac{1}{2} \times 10 \text{ cm} \times 8 \text{ cm} = 40 \text{ cm}^2$

Hence,

Area of the pentagon *ABCDE* = $(120 + 40) \text{ cm}^2 = 160 \text{ cm}^2$

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