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 Δ *APB* = Area of Δ *PDC*

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

$\qquad\qquad$ = $\frac{1}{2}$ x 20 cm x 25 cm = 250 cm^2

Area of Δ *PDC* = Area of Δ *APB* = 250 cm^2

Area of Δ *RPQ* = $\frac{1}{2}$ x Base x Height

$\qquad\qquad$ = $\frac{1}{2}$ x 25 cm x 10 cm = 125 cm^2

Hence,

Sum of the three triangles = (250 + 250 + 125) cm^2

$\qquad\qquad\qquad$ = 625 cm^2

(ii) Area of the rectangle *ABCD* = 50 cm x 20 cm = 1000 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)
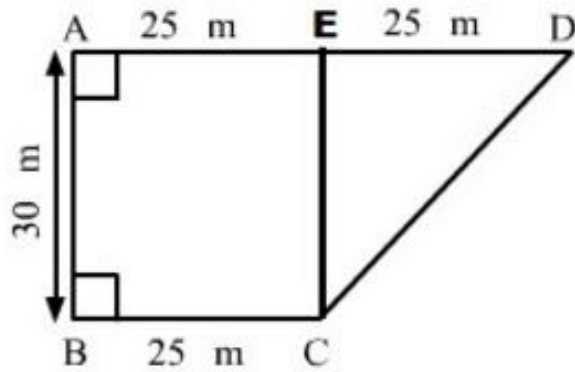
= (1000 − 625) cm^2 = 375 cm^2

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 $\triangle CED = \frac{1}{2} \times EC \times ED$
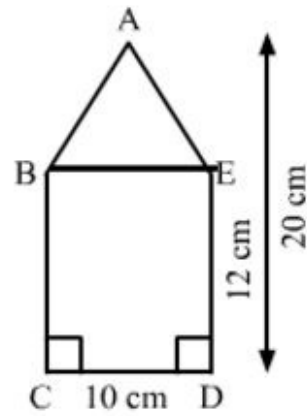
$$= \frac{1}{2} \times 30 \text{ m} \times 25 \text{ m}$$

$$= 375 \text{ m}^2$$

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*

$\qquad\qquad\qquad\qquad\qquad$ = 10 cm x 12 cm = 120 cm^2

Area of Δ*ABE* = $\frac{1}{2}$ x *BE* x height of the triangle

$\qquad\qquad\quad$ = $\frac{1}{2}$ x 10 cm x (20 − 12) cm

$\qquad\qquad\quad$ = $\frac{1}{2}$ x 10 cm x 8 cm = 40 cm^2

Hence,

Area of the pentagon *ABCDE* = (120 + 40) cm^2 = 160 cm^2

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