



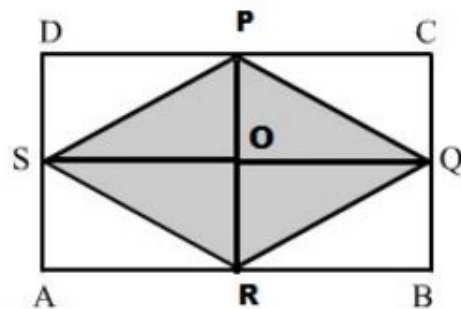
Mensuration I Ex 20.4 Q10

Answer :

We have,

Join points PR and SQ .

These two lines bisect each other at point O .



Here, $AB = DC = SQ = 40$ cm and $AD = BC = RP = 25$ cm

Also $OP = OR = \frac{RP}{2} = \frac{25}{2} = 12.5$ cm

From the figure we observed that,

Area of $\Delta SPQ =$ Area of ΔSRQ

Hence, area of the shaded region = $2 \times$ (Area of ΔSPQ)
 $= 2 \times \left(\frac{1}{2} \times SQ \times OP \right)$
 $= 2 \times \left(\frac{1}{2} \times 40 \text{ cm} \times 12.5 \text{ cm} \right)$
 $= 500 \text{ cm}^2$

Mensuration I Ex 20.4 Q11

Answer :

We have,

$BD = 42$ cm, $AC = 28$ cm, $OD = 12$ cm

Area of $\Delta ABC = \frac{1}{2} \times AC \times OB$
 $= \frac{1}{2} \times AC \times (BD - OD)$
 $= \frac{1}{2} \times 28 \text{ cm} \times (42 \text{ cm} - 12 \text{ cm}) = \frac{1}{2} \times 28 \text{ cm} \times 30 \text{ cm} = 14 \text{ cm} \times 30 \text{ cm} = 420 \text{ cm}^2$

Area of $\Delta ADC = \frac{1}{2} \times AC \times OD$
 $= \frac{1}{2} \times 28 \text{ cm} \times 12 \text{ cm} = 14 \text{ cm} \times 12 \text{ cm} = 168 \text{ cm}^2$

Hence,

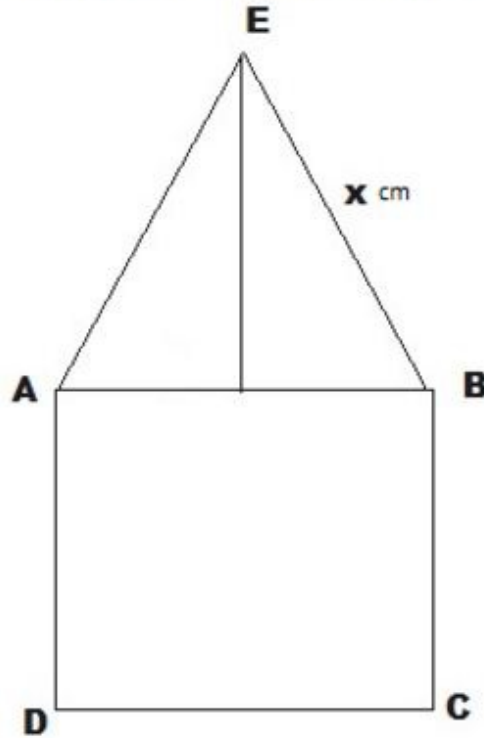
Area of the quadrilateral $ABCD =$ Area of $\Delta ABC +$ Area of ΔADC

$$= (420 + 168) \text{ cm}^2 = 588 \text{ cm}^2$$

Mensuration I Ex 20.4 Q12

Answer :

Let x cm be one of the equal sides of an isosceles triangle.



Given that the perimeter of the isosceles triangle = 18 cm

Then,

$$x + x + 8 = 18$$

$$\Rightarrow 2x = (18 - 8) \text{ cm} = 10 \text{ cm}$$

$$\Rightarrow x = 5 \text{ cm}$$

Area of the figure formed = Area of the square + Area of the isosceles triangle

$$\begin{aligned} &= (\text{Side of square})^2 + \frac{1}{2} \times \text{Base} \times \sqrt{(\text{Equal side})^2 - \frac{1}{4} \times (\text{Base})^2} \\ &= (8)^2 + \frac{1}{2} \times 8 \times \sqrt{(5)^2 - \frac{1}{4} (8)^2} \\ &= 64 + 4 \times \sqrt{25 - 16} \\ &= 64 + 4 \times \sqrt{9} \\ &= 64 + 4 \times 3 \\ &= 64 + 12 = 76 \text{ cm}^2 \end{aligned}$$

***** END *****