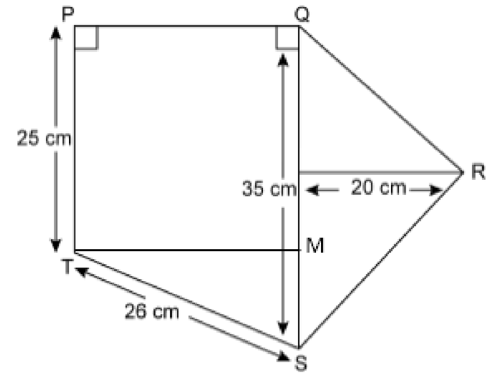
(b) Construction: Draw TM ⊥ QS



$$\text{Area of } \Delta RQS = \frac{1}{2} \times QS \times RN = \frac{1}{2} \times 35 \times 20 = 350 \text{ cm}^2$$

$\text{Now, } QS = QM + MS$

$\Rightarrow 35 = 25 + MS$

$\Rightarrow MS = 10 \text{ cm}$

In ΔSTM,

$MS^2 + TM^2 = ST^2$

$\Rightarrow TM^2 = ST^2 - MS^2 = (26)^2 - (10)^2 = 676 - 100 = 576$

$\Rightarrow TM = 24 \text{ cm} = PQ$

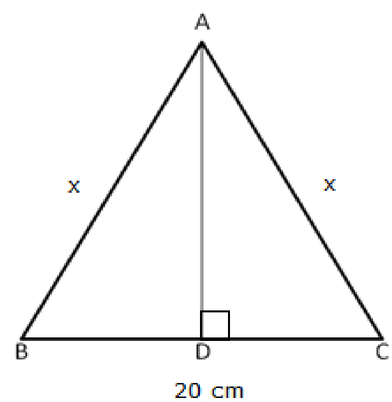
$$\therefore \text{ Area of trapezium PQST} = \frac{1}{2} \times (PT + QS) \times PQ = \frac{1}{2} \times (25 + 35) \times 24 = 720 \text{ cm}^2$$

$$\begin{aligned}\text{Thus, area of given figure} &= \text{Area of } \Delta RQS + \text{Area of trapezium PQST} \\ &= 350 \text{ cm}^2 + 720 \text{ cm}^2 \\ &= 1070 \text{ cm}^2\end{aligned}$$

(c) Given: In ΔABC, AB = AC = x, BC = 20 cm, Area of ΔABC = 250 cm^2

To find: x

Construction: Draw AD ⊥ BC



Since ΔABC is an isosceles triangle. AD bisects BC.

BD = DC = 20/2 = 10cm

$$\text{Area of } \Delta ABC = \frac{1}{2} \times BC \times AD = 250 \text{cm}^2 \text{[Given]}$$

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

In rt. ΔADC,

$AD^2 + DC^2 = AC^2$

$25^2 + 10^2 = x^2$ [Pythagoras Theorem]

$x^2 = 625 + 100 = 725$

$\Rightarrow x = 5\sqrt{29} \text{ cm}$