

Class VII, 18 A, p5
Solutions by Dev Anoop

(12)

Const - draw $CE \parallel DA$

Sol $\square AECD$ is a \square

$$AE = DC = 11 \text{ cm}$$

$$CE = DA = 13 \text{ cm}$$

$$BE = 25 - 11 \\ = 14 \text{ cm}$$

$$\Delta CEB, s = \frac{42 + 21}{2}$$

$$\begin{aligned} \text{area of } \Delta &= \sqrt{s(s-a)(s-b)(s-c)} \\ &= \sqrt{21(21-13)(21-14)(21-15)} \\ &= \sqrt{21 \times 8 \times 7 \times 6} \\ &= \sqrt{7 \times 3 \times 2^2 \times 2 \times 7 \times 6} \\ &= 7 \times 6 \times 2 \\ &= 84 \text{ cm}^2 \end{aligned}$$

$$\text{ar}(\Delta) = 84 \text{ cm}^2$$

$$\frac{1}{2} \times 14 \times h = 84$$

$$\Rightarrow h = 12 \text{ cm}$$

$$\begin{aligned} \text{area of trap} &= \frac{1}{2} (b_1 + b_2) h \\ &= \frac{1}{2} (11 + 25) \times 12 \\ &= 36 \times 6 \\ &= 216 \text{ cm}^2 \end{aligned}$$

