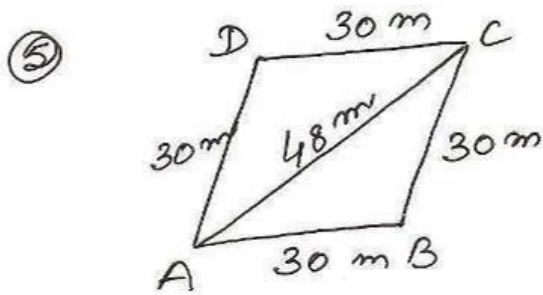


ex 12.2 Herons formula x



$$\begin{aligned} \Delta ABC \\ s &= \frac{a+b+c}{2} \\ &= \frac{30+30+48}{2} \\ &= \frac{108}{2} \\ &= 54 \text{ m} \end{aligned}$$

area of ΔABC

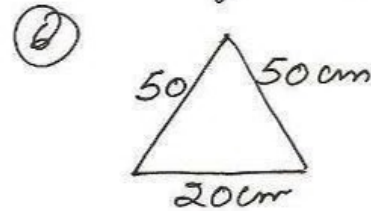
$$\begin{aligned} &= \sqrt{s(s-a)(s-b)(s-c)} \\ &= \sqrt{54(54-30)(54-30)(54-48)} \\ &= \sqrt{54 \times 24 \times 24 \times 6} \\ &= 24 \sqrt{3 \times 3 \times 6 \times 6} \\ &= 24 \times 3 \times 6 \\ &= 432 \text{ m}^2 \end{aligned}$$

area of rhombus

$$\begin{aligned} &= 2 \text{ ar}(\Delta ABC) \\ &= 2 \times 432 \\ &= 864 \text{ m}^2 \end{aligned}$$

area 1 cow can

$$\begin{aligned} \text{graze} &= \frac{864}{18} \\ &= 48 \text{ m}^2 \end{aligned}$$



$$\begin{aligned} s &= \frac{a+b+c}{2} \\ &= \frac{20+50+50}{2} \\ &= \frac{120}{2} \\ &= 60 \text{ cm} \end{aligned}$$

area of 1 triangular piece

$$\begin{aligned} &= \sqrt{s(s-a)(s-b)(s-c)} \\ &= \sqrt{60(60-20)(60-50)(60-50)} \\ &= \sqrt{60 \times 40 \times 10 \times 10} \\ &= \sqrt{6 \times 10 \times 4 \times 10} \\ &= 10 \times 10 \sqrt{2 \times 3 \times 2 \times 2} \\ &= 100 \sqrt{6} \text{ cm}^2 \end{aligned}$$