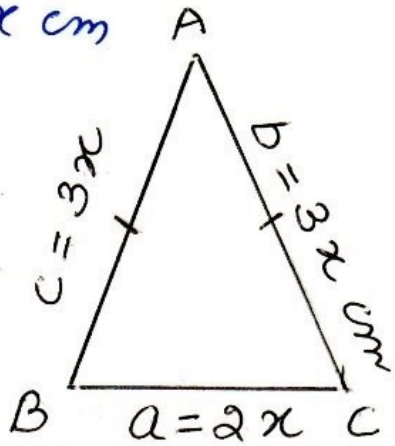
4. let each equal side = $3x$ cm

base = $2x$ cm



perimeter of Δ = 32 cm

$\therefore 2x + 3x + 3x = 32$

$\Rightarrow 8x = 32$

$\Rightarrow x = \frac{32}{8}^{4}$

$\therefore$ base = $2 \times 4 = 8$ cm

each equal side = 3×4

$= 12$ cm

$$s = \frac{\text{perimeter}}{2}$$

$$= \frac{32}{2}$$

$$= 16 \text{ cm}$$

$$\text{area of } \Delta = \sqrt{16(16-8)(16-12)(16-12)}$$

$$= \sqrt{16 \times 8 \times 4 \times 4}$$

$$= 4\sqrt{2^2 \times 2^2 \times 2^2 \times 2}$$

$$= 4 \times 2 \times 2 \times 2\sqrt{2}$$

$$= 32\sqrt{2} \text{ cm}^2$$