

3] A cuboidal box has each edge 10 cm and another cuboidal box is 12.5 cm long, 10 cm wide and 8 cm high.

4] Which box has the greater lateral surface area and by how much?

5] Which box has smaller ^{total} surface area and by how much?

→ 3] LSA of the cuboidal box.

$$4a^2 = 4(10)^2 = 400 \text{ cm}^2$$

For Cuboidal box = $l = 12.5 \text{ cm}$, $b = 10 \text{ cm}$ & $h = 8 \text{ cm}$.

$$\therefore \text{LSA} = 2[l+b]h$$

$$= 2[12.5 + 10](8) = 360 \text{ cm}^2$$

$\therefore$ Cubical box has the greater lateral surface area than the cuboidal box by $[400 - 360] \text{ cm}^2$, i.e. 40 cm^2 .

6]

TSA of the cuboidal box = $6a^2$.

$$6(10)^2 = 600 \text{ cm}^2$$

TSA of the cuboidal box
 $2[lb + bh + hl]$

$$2[(125)(10) + (10)(8) + (8)(125)]$$

$$= 2[1250 + 80 + 1000] = 6100 \text{ cm}^2$$

$\therefore$ Cubical box has the smaller total surface area than the cuboidal box by $(610 - 600) \text{ cm}^2$, i.e. 10 cm^2 .

6. A small indoor greenhouse (herbarium) is made entirely of glass panes (including base) held together with tape. It is 30 cm long, 25 cm wide & 25 cm high.

What is the area of the glass?

How much of tape is needed for all the 12 edges?

7. For herbarium, $l = 30 \text{ cm}$; $b = 25 \text{ cm}$ & $h = 25 \text{ cm}$.

$\therefore$ Area of the glass = $2[lb + bh + hl]$.

$$2[(30)(25) + (25)(25) + (25)(30)]$$

$$2[750 + 625 + 750]$$

$$= 4250 \text{ cm}^2$$

8. The tape needed for all the 12 edges $4[l + b + h]$.

$$4[30 + 25 + 25] = 320 \text{ cm}$$

9. Shanti Sweet Stall was placing an order for making cardboard boxes for

$$\therefore \text{Cost of the Cardboard} = \frac{4}{1000} \times 38825$$

$$= 1522.50.$$

For smaller box $l=15$, $b=12$, $h=5$.

$$\text{TSA} = 2[lb + bh + hl].$$

$$2[(15)(12) + (12)(5) + (5)(15)].$$

$$2[180 + 60 + 75]$$

$$= 630 \text{ cm}^2.$$

Cardboard required for all the boxes.

$$= 630 \times \frac{5}{100} = 31.5 \text{ cm}^2.$$

$\therefore$ Net SA of the smaller box

$$630 - 31.5 \text{ cm} = 661.50.$$

$\therefore$ Cost of Cardboard required for supplying 250 boxes of each kind.

$$= 1522.50 + 661.50 = 2184$$