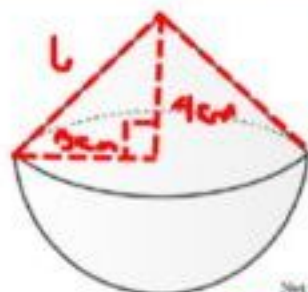


page1
ht page1

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Cambridge IGCSE/GCSE Mathematics: Examination-Style Paper 4
 Rayner Extended Maths for Cambridge IGCSE Fifth edition Page



$$L^2 = 4^2 + 3^2$$

$$L^2 = 25$$

$$L = 5 \text{ cm}$$

Not to scale

light consists of a cone mounted on a
 common radius (r) is 3 cm; the height of
 cm.

one is $\frac{1}{3}\pi r^2 h$; the volume of a sphere is
 and surface area of a cone is $\pi r l$ (slant height l)
 of a sphere is $4\pi r^2$.

the volume of the paperweight,
 the surface area of the paperweight.
 glass of which the paperweight is made
 Calculate the mass of the paperweight.

$$1 \text{ cm}^3 \rightarrow 2.85 \text{ g}$$

$$94 \text{ cm}^3 = 2.85 \times 94$$

$$267.9 \text{ g}$$

$$\underline{268 \text{ g}}$$

[4]

[5]

[2]

$$i) V_{pw} = V_c + V_{hs}$$

$$V_c = \frac{1}{3}\pi r^2 h$$

$$= \frac{1}{3}\pi \times 3^2 \times 4$$

$$= 12\pi \text{ cm}^3$$

$$V_{hs} = \frac{1}{2}\left[\frac{4}{3}\pi r^3\right]$$

$$= \frac{2}{3}\pi \times 3^3$$

$$= 18\pi \text{ cm}^3$$

$$V_{pw} = (12\pi + 18\pi) \text{ cm}^3$$

$$V_{pw} = 30\pi \text{ cm}^3$$

$$= 94.248 \approx \underline{94 \text{ cm}^3}$$

$$ii) S_{pw} = S_c + S_{hs}$$

$$S_c = \pi r l$$

$$S_c = 15\pi \text{ cm}^2$$

$$S_{hs} = \frac{1}{2}(4\pi r^2)$$

$$= 2\pi \times 3^2$$

$$= 18\pi \text{ cm}^2$$

$$S_{pw} = (15\pi + 18\pi) \text{ cm}^2$$

$$S_{pw} = 33\pi \text{ cm}^2$$

$$S_{pw} = 103.62 \approx \underline{104 \text{ cm}^2}$$

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