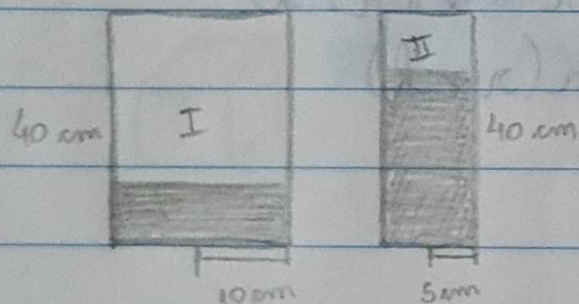


Tarefa Básica

①



$$V_I = \pi 10^2 \cdot 40 \quad V_{II} = \pi 5^2 \cdot 40$$

$$V_I = 4000\pi \text{ cm}^3 \quad V_{II} = 1000\pi \text{ cm}^3$$

$$\frac{1}{5} \cdot 4000\pi = 800\pi \text{ cm}^3$$

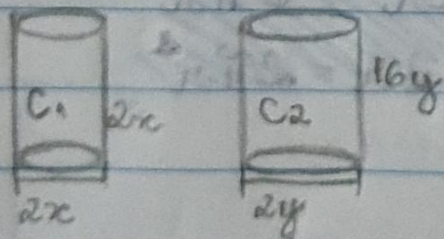
$$\frac{1000\pi}{800\pi} \times 40 \text{ cm} = 50 \text{ cm}$$

$$1000\pi = 3200\pi$$

$$r = 32 \text{ cm}$$

Alternativa (A)

②



$$\frac{V_1}{V_2} = \frac{1}{27}$$

$$r_1 = x$$

$$r_2 = y$$

$$V_1 = 1 = \frac{2\pi x^3}{27 \pi y^2 16y} = \frac{2x^3}{16y^3} = \frac{1}{8}$$

$$\frac{1}{8} = \frac{1}{27} \cdot \frac{8}{27}$$

$$\frac{x^3}{y^3} = \frac{8}{27} \rightarrow \frac{x}{y} = \frac{2}{3}$$

Alternativa (E)

$$(3) A_{T1} = 2\pi r(r+l)$$

$$A_{T2} = 2\pi 3r \cdot l$$

$$2\pi r(r+l) = 2\pi 3r \cdot l$$

$$r+l = 3l$$

$$r = 3l - l$$

$$r = 3l - 2l$$

$$r = l$$

$$V_1 = \pi r^2 l$$

$$16\pi = \pi \left(\frac{l}{2}\right)^2 l$$

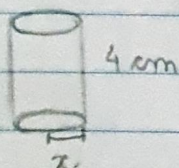
$$16 = \frac{l^3}{4}$$

$$l^3 = 64$$

$$l = 4$$

Alternativa (D)

(4)



$$V_I = \pi x^2 \cdot 16$$

$$V_{II} = \pi (x+12)^2 \cdot 4$$

$$16\pi x^2 = 4\pi (x+12)^2 \Rightarrow 16x^2 = (x^2 + 24x + 144) \cdot 4$$

$$16x^2 = 4x^2 + 96x + 576$$

$$\Delta = 9216 - 4 \cdot -12 \cdot 576$$

$$-12x^2 + 96x + 576$$

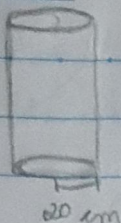
$$\Delta = 36864$$

$$x = \frac{-96 \pm 192}{-24} \rightarrow x' = \frac{-288}{-24} = 12$$

Alternativa (A)

$$x'' = \frac{96}{-24} = -4 \quad (\text{X})$$

⑤



20 cm

$$V = \pi (20)^2 \cdot 0,08$$

$$0,8 \text{ mm} = 0,08 \text{ cm}$$

$$V = 400\pi \cdot 0,08$$

$$V = 32 \cdot 3,14$$

$$V = 100,48 \text{ cm}^3$$

Alternativa (B)

Tarefa Básica

①

$x \text{ cm}$

$2x \text{ cm}$

$$48 = \frac{1}{2} x^2 \cdot 8$$

3

$$l = 8 \text{ cm}$$

$$V = 48 \text{ cm}^3$$

$$144 = 16x^2$$

$$x^2 = 9$$

$$x = 3 \text{ cm}$$

Alternativa

(C)

②



80 mm

$$(\text{APÓTEMA PIRÂMIDE})^2 = l^2 + a^2$$

$$A.P.^2 = 900 + 1600$$

$$(AP)^2 = 2500$$

$$AP = 50$$

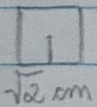
$$AT = 80^2 + \left(\frac{80 \cdot 50}{2} \right) \cdot 4$$

$$AT = 6400 + 8000$$

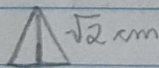
$$AT = 14400 \text{ mm}^2$$

Alternativa (E)

③



$\sqrt{2} \text{ cm}$



$\sqrt{2} \text{ cm}$

$$\rightarrow \text{apótema da pirâmide} = \frac{\sqrt{2} \cdot \sqrt{3}}{2}$$

apótema da

$$\Rightarrow \frac{\sqrt{6}}{2} = A$$

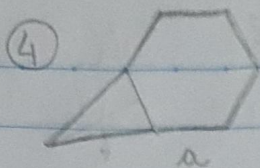
$$\text{base} = \frac{\sqrt{2}}{2} \text{ cm} = a$$

2

$$\left(\frac{\sqrt{6}}{2} \right)^2 = \left(\frac{\sqrt{2}}{2} \right)^2 + h^2 \Rightarrow \frac{6}{4} = \frac{2}{4} + h^2 \Rightarrow h^2 = \frac{4}{4} \Rightarrow h^2 = 1$$

$$h = 1$$

Alternativa (C)



$$V = \frac{1}{3} \cdot 6a^2\sqrt{3} \cdot h$$

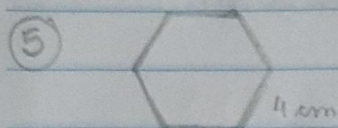
$$V = \frac{6a^2\sqrt{3}}{12} \cdot h\sqrt{3}$$

Alternativa

Ⓐ

$$h = h\sqrt{3} \text{ cm}$$

$$V = \frac{18a^2h}{12} = \frac{3a^2h}{2}$$

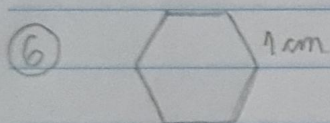


$$V = \frac{1}{3} \cdot 6 \cdot 4^2\sqrt{3} \cdot 6\sqrt{3}$$

$$V = \frac{1728}{12}$$

Alternativa Ⓓ

$$V = 144 \text{ cm}^3$$

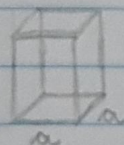
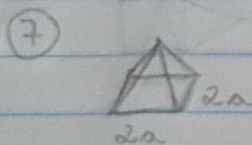


$$V = \frac{1}{3} \cdot 6 \cdot 1^2\sqrt{3} \cdot 8$$

$$V = \frac{48\sqrt{3}}{12}$$

Alternativa Ⓐ

$$V = 4\sqrt{3} \text{ cm}^3$$



$$V_P = V_{\text{PRISMA}}$$

$$\frac{1}{3} \cdot 4a^2 \cdot h_1 = a^2 \cdot h_2$$

$$4a^2h_1 = a^2h_2$$

$$4a^2h_1 = 3a^2h_2$$

$$4a^2h_1 = 3h_2$$

$$4h_1 = 3h_2$$

$$h_1 = 3$$

$$h_2 = 4$$

Alternativa Ⓐ

$$\textcircled{8} \quad A_T = 6\sqrt{3} \text{ cm}^2$$

$$A_{\text{BASE}} = \frac{6\sqrt{3}}{4} = \frac{3\sqrt{3}}{2} \text{ cm}^2$$

$$h = \frac{l\sqrt{6}}{3} \Rightarrow h = \frac{\sqrt{6} \cdot \sqrt{6}}{3}$$

$$h = \frac{6}{3} = 2 \text{ cm}$$

$$\frac{3\sqrt{3}}{2} = \frac{l^2 \sqrt{3}}{4}$$

$$12 = 2l^2$$

$$l^2 = 6$$

$$l = \sqrt{6} \text{ cm}$$

Alternativa (A)