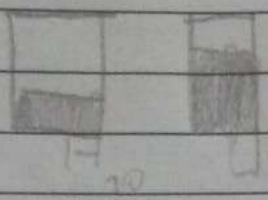
CREATE IT.

Tarefa Básica - Cilindros

1)



1/5 do volume do maior

$\pi r^2 h = 800\pi$

$5^2 h = 800$

$h = \frac{800}{25}$

$h = 32$ cm

$\frac{1}{5} \cdot \pi r^2$

$\frac{1}{5} \cdot 10^2 \cdot 40\pi$

$\frac{1}{5} \cdot 4000\pi$

800π

alternativa (A)

2) V_1 → volume de C_1

V_2 → volume de C_2

$$\frac{V_1}{V_2} = \frac{1}{27} \rightarrow \frac{\pi \cdot (R_1)^2 \cdot R_1}{\pi \cdot (R_2)^2 \cdot R_2} = \frac{1}{27} \rightarrow \frac{(R_1)^2 \cdot 2R_1}{(R_2)^2 \cdot 16R_2} = \frac{1}{27}$$

$$\therefore \frac{(R_1)^2 \cdot R_1 \cdot 2}{(R_2)^2 \cdot R_2 \cdot 16} = \frac{1}{27} \rightarrow \frac{(R_1)^3}{(R_2)^3} \cdot \frac{1}{8} = \frac{1}{27} \rightarrow \frac{(R_1)^3}{(R_2)^3} = \frac{8}{27}$$

$$\therefore \frac{R_1}{R_2} = \sqrt[3]{\frac{8}{27}} \rightarrow \frac{R_1}{R_2} = \sqrt[3]{\frac{2^3}{3^3}} \rightarrow \frac{R_1}{R_2} = \frac{2}{3}$$

8	2
4	2
2	2
1	

27	3
9	3
3	3
1	

Alternativa (E)

3) Cilindro I

$V = \pi r^2 h$

$16\pi = \pi r^2 h$

$r^2 h = 16$

$a_{lateral} = a_{total}$

$C_2 \qquad C_7$

$2\pi\left(\frac{h}{2}\right) r h = 2\pi r (h + r)$

$\frac{h}{2} = r$

$\left(\frac{h}{2}\right)^2 . h = 16$

$\frac{h^2}{4} . h = 16$

$h^3 = 64$

$h = \sqrt[3]{64}$

$h = 4$

alternativa (D)

4) $V = \pi r^2 h$

$\pi (r+12)^2 . 4 = \pi r^2 . (4 + 12)$

$\pi (r^2 + 24r + 144) . 4 = \pi r^2 16$

$\pi (4r^2 + 96r + 576) = \pi r^2 16$

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

$16r^2 - 4r^2 - 96r - 576 = 0$

$12r^2 - 96r - 576 = 0 \quad (\div 12)$

$r^2 - 8r - 48 = 0$

$\rightarrow 12 + (-4) = 8$

$12 . (-4) = -48$

$R' = 12$ cm

$R'' = -4$ não convém

alternativa (A)

5)

$R = 20$ cm

$h = 0,8$ mm $= 0,08$ cm

$a_b = \pi r^2$

$a_b = \pi 20^2$

$a_b = 400\pi$

$V = a_b . h$

$V = 400\pi . 0,08$

$V = 32\pi$

$V = 100,5$ cm³

alternativa (B

Tarefa Básica - Pirâmides

1) $a_b = b \cdot h_1$
$a_b = x \cdot 2x$
$a_b = 2x^2\ cm^2$

$V = \frac{a_b \cdot h}{3} \rightarrow 48 = \frac{2x^2 \cdot 8}{3}$
$16x^2 = 48 \cdot 3 \rightarrow 16x^2 = 144$
$x^2 = \frac{144}{16} \rightarrow x^2 = 9 \rightarrow x = \sqrt{9}$
$x = 3\ cm$

alternativa (C)

2) $a_b = 80^2$
$a_b = 6400\ mm^2$

$h_1^2 = 40^2 + 30^2$
$h_1^2 = 1600 + 900$
$h_1 = \sqrt{2500}$
$h_1 = 50\ mm$

$a_l = \frac{80 \cdot 50}{2}$
$a_l = 2000\ mm$

$a_T = a_b + a_l$
$a_T = 6400 + 2000 \cdot 4$
$a_T = 74400\ mm^2$ alternativa (E)

3) $D = \ell\sqrt{2}$
$D = \sqrt{2} \cdot \sqrt{2}$
$D = 2$

$(\sqrt{2})^2 = h^2 + 1^2$
$2 = h^2 + 1$
$h^2 = 1$
$h = \sqrt{1} = 1\ cm$

alternativa (C)

4) $a_b = \frac{3\ell^2\sqrt{3}}{2}$
$a_b = \frac{3a^2\sqrt{3}}{2}$

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

alternativa (A)

5)

$Ab = \frac{3L^2\sqrt{3}}{2}$ $\quad V = \frac{Ab \cdot h}{3}$

$Ab = \frac{3 \cdot 4^2\sqrt{3}}{2}$ $\quad V = \frac{24\sqrt{3} \cdot 6\sqrt{3}}{3}$

$Ab = \frac{48\sqrt{3}}{2}$ $\quad V = \frac{144 \cdot \cancel{3}}{\cancel{3}}$ alternativa (D)

$Ab = 24\sqrt{3}\ cm^2$ $\quad V = 144\ cm^3$

6)

$2p = 6\ cm$

$L = 6 \div 6 = 1\ cm$

$V = \frac{3\sqrt{3} \cdot 8}{3}$

$Ab = \frac{3L^2\sqrt{3}}{2}$

$Ab = \frac{3 \cdot 1^2\sqrt{3}}{2}$ $\quad V = \frac{8\sqrt{3}}{2}$ alternativa [A]

$Ab = \frac{3\sqrt{3}}{2}\ cm^2$ $\quad V = 2\sqrt{3}\ cm^3$

7)

Pirâmide	Prisma	$\frac{4a^2 \cdot h_2}{2} = a^2 \cdot h_2$
$Ab = Base^2$	$Ab = a^2$	$h_2 = 3a^2$
$Ab = 4a^2$	$V = a^2 \cdot h_2$	$h_2 = 4a^2$
$V = \frac{4a^2 \cdot h_1}{3}$		$\frac{h_1}{h_2} = \frac{3}{4}$

alternativa (A)

NSK

CREATE IT.

81 $a_t = \ell^2 \sqrt{3}$

$6\sqrt{3} = \ell^2 \sqrt{3} \Rightarrow \ell^2 = 6$

$\frac{6\sqrt{3}}{\sqrt{3}} = \ell^2 \qquad \ell = \sqrt{6}$

$R = \frac{\ell\sqrt{6}}{3}$

$R = \frac{\sqrt{6} \cdot \sqrt{6}}{3}$

$R = \frac{6}{3}$

$R = 2$ cm

Alternativa (A)