

# Tarefa Básica - Cilindros

01.  $\frac{1}{5}$  do volume  
 $\frac{1}{5} \cdot \pi r^2 h$   
 $= \frac{1}{5} \cdot 10^2 \cdot 40\pi$   
 $= 800\pi$

$\pi r^2 h = 800\pi$   
 $5^2 h = 800$   
 $h = 800/25$   
 $h = 32 \text{ cm}$  (A)

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

$\frac{\pi (R_1)^2 \cdot h_1}{\pi (R_2)^2 \cdot h_2} = \frac{1}{27}$   
 $\frac{(R_1)^2 \cdot 2R_1}{(R_2)^2 \cdot 16R_2} = \frac{1}{27}$

$\left(\frac{R_1}{R_2}\right)^3 = \frac{8}{27}$   
 $\frac{R_1}{R_2} = \frac{2}{3}$  (E)

03. Cilindro I  
 $V = \pi r^2 h$   
 $16\pi = \pi r^2 h$   
 $r^2 h = 16$

$\left(\frac{h}{2}\right)^2 \cdot h = 16$   
 $\frac{h^2}{4} \cdot h = 16$

$h^3 = 64$   
 $h = 4$  (D)

$2\pi(3/2)r h = 2\pi r(h+r) \rightarrow A_{L2} = A_{T2}$   
 $\frac{h}{2} = r$

04.  $V = \pi r^2 h$   
 $\pi(r+12)^2 \cdot 4 = \pi r^2 (4+12)$   
 $\pi(r^2 + 24r + 144) \cdot 4 = \pi r^2 16$   
 $\pi(4r^2 + 96r + 576) = \pi r^2 16$   
 $4r^2 + 96r + 576 = 16r^2$   
 $16r^2 - 4r^2 - 96r - 576 = 0$   
 $12r^2 - 96r - 576 = 0$   
 $r^2 - 8r - 48 = 0$

$\frac{12}{12} + \frac{-4}{-4} = 8$   
 $\frac{12}{12} - \frac{-4}{-4} = -48$  }  $\begin{cases} r' = 12 \text{ cm} \\ r'' = 4 \text{ cm} \end{cases}$

$\begin{array}{r|l} 48 & 2 \\ 24 & 2 \\ 12 & 2 \\ 6 & 2 \\ 3 & 3 \\ 1 & \end{array}$  (A)

5.  $r = 20 \text{ cm}$

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

$V = Ab \cdot h$

$Ab = \pi r^2$

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

$Ab = \pi 20^2$

$V = 32\pi$

$Ab = 400\pi$

$V = 100,5 \text{ cm}^3$  (B)

## Tarefa Básica - Pirâmides

01.  $Ab = b \cdot h$

$V = Ab \cdot h / 3$

$Ab = x \cdot 2x$

~~48~~  $= 2x^2 \cdot 8 / 3$

$Ab = 2x^2 \text{ cm}^2$

$16x^2 = 48 \cdot 3$

$x^2 = 144 / 16$

$x = \sqrt{9} \rightarrow \boxed{x = 3}$  (C)

02.  $Ab = 80^2$

$A_L = 80 \cdot 50 / 2$

$Ab = 6400 \text{ mm}^2$

$A_L = 2000 \text{ mm}^2$

$h^2 = 40^2 + 30^2$

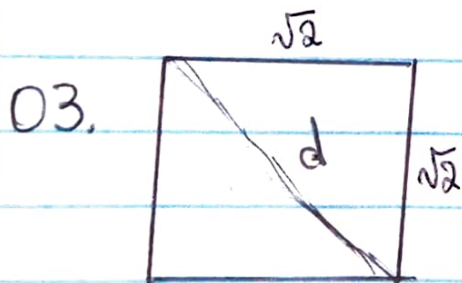
$A_T = 4 \cdot 2000 + 6400$

$h^2 = 1600 + 900$

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

$h = \sqrt{2500} = 50 \text{ mm}$

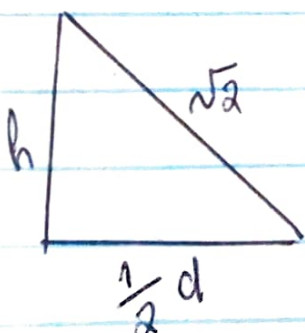
(E)



$d = l\sqrt{2}$

$d = \sqrt{2} \cdot \sqrt{2}$

$d = 2 \text{ cm}$



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

$2 = h^2 + 1$

$h^2 = 1$

$h = 1 \text{ cm}$

(C)

$$04. Ab = 3l^2\sqrt{3}/2$$

$$Ab = 3a^2\sqrt{3}/2$$

$$V = \frac{Ab \cdot h}{3}$$

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

$$V = \frac{3 \cdot a^2 \cdot \cancel{3}b \cdot \frac{1}{\cancel{3}}}{2}$$

$$\boxed{V = \frac{3a^2 \cdot b}{2}} \quad (A)$$

$$05. Ab = 3l^2\sqrt{3}/2$$

$$Ab = 3 \cdot 4^2\sqrt{3}/2$$

$$Ab = 48\sqrt{3}/2$$

$$Ab = 24\sqrt{3} \text{ cm}^2$$

$$V = Ab \cdot h / 3$$

$$V = 24\sqrt{3} \cdot 6\sqrt{3} / 3$$

$$V = 144 \cdot \cancel{3} / \cancel{3}$$

$$\boxed{V = 144 \text{ cm}^3} \quad (D)$$

$$06. 2p = 6 \text{ cm}$$

$$L = 6/6 = 1 \text{ cm}$$

$$Ab = 3 \cdot 1^2\sqrt{3}/2$$

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

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

$$V = \frac{8\sqrt{3}}{2}$$

$$\boxed{V = 4\sqrt{3} \text{ cm}^3} \quad (A)$$

$$07. \text{ Pirâmide:}$$

$$Ab = (2a)^2$$

$$Ab = 4a^2$$

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

$$\text{Prisma:}$$

$$Ab = a^2$$

$$V = a^2 \cdot h_2$$

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

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

$$\boxed{\frac{h_1}{h_2} = \frac{3}{4}} \quad (A)$$

$$08. At = a^2\sqrt{3}$$

$$6\sqrt{3} = a^2\sqrt{3}$$

$$a = \sqrt{6}$$

$$h = \frac{a\sqrt{6}}{3}$$

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

$$h = 6/3$$

$$\boxed{h = 2 \text{ cm}} \quad (A)$$