

Tarefa Básica - Cilindros

$$\begin{aligned} \textcircled{01} \quad V &= \pi \cdot 100 \cdot \frac{1}{5} \cdot 40 \\ V &= \pi \cdot 20 \cdot 40^5 \\ V &= 800\pi \text{ cm}^3 \end{aligned} \quad \left\{ \begin{array}{l} V_1 = V_2 \\ 800\pi = \pi \cdot 25 \cdot h \\ h = \frac{800}{25} = 32 \text{ cm} \quad (A) \end{array} \right.$$

$$\textcircled{02} \quad \frac{\pi \cdot R_1^2 \cdot h_1}{\pi \cdot R_2^2 \cdot h_2} = \frac{1}{27} \rightarrow \frac{(R_1)^2 \cdot 2R_1}{(R_2)^2 \cdot 16R_2} = \frac{1}{27} \rightarrow \left(\frac{R_1}{R_2}\right)^3 = \frac{8}{27} \rightarrow \frac{R_1}{R_2} = \frac{2}{3} \quad (E)$$

$$\textcircled{03} \quad \text{Cilindro I, raio} = R \quad \text{Cilindro II, raio} = \frac{3R}{2}$$

$$2\pi \cdot \frac{3R}{2} \cdot h = 2 \cdot \pi \cdot R \cdot h + 2 \cdot \pi \cdot R^2 = 3\pi \cdot R \cdot h = 2\pi \cdot R \cdot h + 2\pi R^2 = \pi \cdot R \cdot h = 2\pi \cdot R^2$$

$$h = 2 \cdot R \quad (I)$$

$$\pi \cdot R^2 \cdot h = 16\pi = h = \frac{16}{R^2} \quad (II)$$

$$V_1 = V_2$$

$$\frac{16}{R^2} = 2R \rightarrow 2R^3 = 16 \rightarrow R = \sqrt[3]{8} = 2 \quad \therefore \pi \cdot R^2 \cdot h = 16\pi =$$

$$\pi \cdot 4 \cdot h = 16\pi =$$

$$h = \frac{\pi 16}{\pi 4} = 4 \quad (D)$$

$$\textcircled{04} \quad V = \pi \cdot R^2 \cdot h$$

$$V = \pi \cdot R^2 \cdot 4$$

$$\pi \cdot (R+12)^2 \cdot 4 = \pi \cdot R^2 \cdot (4+12)$$

$$\pi \cdot (R^2 + 24R + 144) \cdot 4 = \pi \cdot R^2 \cdot 16$$

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

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

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

$$12R^2 - 96R - 576 = 0$$

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

$$x = \frac{8 \pm 16}{2}$$

$$x' = \frac{8+16}{2} = 12 \quad (A)$$

$$x'' = \frac{8-16}{2} = -4 \quad (\text{descarta})$$

05) $R = 20 \text{ cm}$

$h = 0,8 \text{ mm} \rightarrow \text{convertendo um cm} = \frac{0,8}{10} = 0,08 \text{ cm}$

$A_B = \pi \cdot R^2 = \pi \cdot 20^2 = 400\pi \text{ cm}^2$

$V = (400\pi) \cdot 0,08 = 32\pi \approx 100 \text{ cm}^3 \text{ (B)}$

Tarefa Básica - Pirâmides

01) $A_B = b \cdot h$

Volume = 48 cm^3

$A_B = x \cdot 2 \cdot x$

Área da base = $2x^2 \text{ cm}^2$

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

$h = 8 \text{ cm}$

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

$48 = \frac{2x^2 \cdot 8}{3} \rightarrow 16x^2 = 48 \cdot 3$

$x^2 = \frac{48 \cdot 3}{16}$

$x^2 = 3 \cdot 3$

$x = \sqrt{9}$

$x = 3 \text{ (c)}$

02) $x^2 = 30^2 + 40^2$

$x^2 = 900 + 1600$

$x^2 = 2500$

$x = \sqrt{2500} = 50 + \text{altura}$

$A = \frac{b \cdot h}{2}$

$A = \frac{80 \cdot 50}{2}$

$A = 2000$

$A = 2000 \cdot 4 = 8000 + \text{área lateral}$

$A_q = 80 \cdot 80 = 6400$

$A_T = 8000 + 6400 = 14400 \text{ (E)}$

$$\textcircled{03} A_T = \frac{b \cdot h}{2}$$

$$A_T = \frac{\sqrt{2} \cdot \sqrt{2}}{2} = \frac{2}{2} = 1 \text{ cm (c)} //$$

04) não consegui fazer " \rightarrow depois consegui

05) Também não consegui

$$\begin{array}{l} \textcircled{06} \text{ Área da base da pirâmide } \left\{ \begin{array}{l} \text{Volume da pirâmide} \\ V = (1/3) \cdot 8 \cdot 3\sqrt{3}/2 \\ V = 4\sqrt{3} \text{ cm}^3 \text{ (A)} \end{array} \right. \\ A_b = 6 \cdot 1^2 \sqrt{3}/4 \\ A_b = 6\sqrt{3}/4 \\ A_b = 3\sqrt{3}/2 \text{ cm}^2 \end{array}$$

$$\begin{array}{l} \textcircled{07} \text{ Pirâmide } \left\{ \begin{array}{l} \text{Prisma} \\ A_b = a^2 \\ V = \frac{4 \cdot a^2 \cdot h_1}{3} \end{array} \right\} \left\{ \begin{array}{l} a^2 \cdot h_2 \\ V = a^2 \cdot h_2 \end{array} \right. \left\{ \begin{array}{l} \frac{4 \cdot a^2 \cdot h_1}{3} = a^2 \cdot h_2 \\ \frac{h_1}{h_2} = \frac{3 \cdot a^2}{4 \cdot a^2} = \frac{3}{4} \text{ (A)} \end{array} \right. \end{array}$$

$$\begin{array}{l} \textcircled{08} A_T = a^2 \sqrt{3} \\ 6\sqrt{3} = a^2 \sqrt{3} \\ a = \sqrt{6} \end{array} \left\{ \begin{array}{l} h = a\sqrt{6}/3 \\ h = \sqrt{6} \cdot \sqrt{6}/3 \\ h = 36/3 \\ h = 6/3 = 2 \text{ cm (A)} \end{array} \right.$$

$$\begin{array}{l} \textcircled{09} A_b = 6 \cdot a^2 \sqrt{3}/4 \\ h = b\sqrt{3} \\ V = \frac{1}{3} \cdot A_b \cdot h \end{array}$$

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