

Tarefa Básica - Cones

$$\textcircled{01} 2\pi R = 20\pi$$

$$R = 10$$

$$10^2 + h^2 = 20^2$$

$$h^2 = 400 - 100$$

$$h^2 = 300$$

$$h = 10\sqrt{3} \text{ (A)}$$

$$\textcircled{02} Ab \cdot \frac{12}{3} = 64\pi$$

$$12Ab = 3 \cdot 64\pi$$

$$12Ab = 192\pi$$

$$Ab = \frac{192\pi}{12} = 16\pi$$

$$Ab = \pi \cdot R^2$$

$$\pi \cdot R^2 = 16\pi$$

$$R^2 = 16$$

$$R = \frac{16}{2} = 4 \text{ e RAIO}$$

$$g^2 = 4^2 + 12^2$$

$$g^2 = 16 + 144$$

$$g^2 = 160$$

$$g = 4\sqrt{10} \text{ (B)}$$

$$\textcircled{03} Ab = \pi \cdot R^2$$

$$36\pi = \pi \cdot R^2$$

$$R^2 = 36$$

$$R = 36/2 = 6 \text{ cm}$$

$$V = 36\pi \cdot \frac{h}{3}$$

$$V = 36\pi \cdot \frac{6}{3}$$

$$V = 36\pi \cdot 2$$

$$V = 72\pi \text{ (A)}$$

$$\textcircled{04} VT = 2 \cdot V_{\text{cone}}$$

$$VT = 2 \cdot \pi R^2 h$$

$$VT = \frac{2\pi}{3} \text{ cm}^3 \text{ (E)}$$

$$\textcircled{05} V_{\text{cilindro}} = \pi R^2 h = \pi \cdot 3^2 \cdot 5 = 45\pi$$

$$V_{\text{cone}} = \frac{1}{3} \pi R^2 h = \frac{1}{3} \cdot \pi \cdot 3^2 \cdot 3 = \pi$$

$$V_{\text{resta}} = 45\pi - \pi = 44\pi \text{ (E)}$$

$$\textcircled{06} V_{\text{cone}} = \frac{1}{3} Ab \cdot h$$

$$V_{\text{prisma}} = Ab \cdot \frac{2}{3} h$$

$$\frac{V_{\text{cone}}}{V_{\text{prisma}}} = \frac{\frac{1}{3} Ab \cdot h}{Ab \cdot \frac{2}{3} h} = \frac{1}{2} \quad (A)$$

$$V_{\text{prisma}} = Ab \cdot \frac{2}{3} h$$

$$\textcircled{07} V_{ABD} = \frac{\pi l^2 l}{3} = \frac{\pi l^3}{3}$$

$$V_{BCD} = \pi l^3 \rightarrow \frac{\pi l^3}{3} \rightarrow V_{BCD} = \frac{2\pi l^3}{3}$$

$$\frac{V_{ABD}}{V_{BCD}} = \frac{\frac{\pi l^3}{3}}{\frac{2\pi l^3}{3}} = \frac{1}{2} \quad (E)$$

Tarefa Básica - Troncos

$$\textcircled{01} V_{\text{cone}} = \frac{\pi \cdot R^2 \cdot h}{3} \Rightarrow \frac{\pi \cdot 3^2 \cdot 8}{3} = 24\pi \text{ cm}^3$$

$$\frac{24\pi}{2} = 12\pi \text{ cm}^3 \text{ de dois líquidos}$$

$$\frac{V}{h^3} \rightarrow \frac{24\pi}{12\pi} = \frac{8^3}{h^3} \rightarrow 2 = \frac{8^3}{h^3} \rightarrow 2h^3 = 812 \rightarrow h^3 = \frac{812}{2}$$

$$h = \sqrt[3]{256}$$

$$h = 2 \cdot \sqrt[3]{4}$$

$$h = \sqrt[4]{4} \text{ cm (E)}$$

Turancos

$$\textcircled{02} \quad K = \frac{20}{16} \quad \left\{ \begin{array}{l} K^3 = \frac{125 \cdot 8}{64 \cdot 8} = \frac{513}{1000} = 51,2\% \text{ aprox } 50\% (c) \\ K = \frac{5}{4} \end{array} \right.$$

$$\textcircled{03} \quad \frac{2V}{V_1} = K^3 \quad \left\{ \begin{array}{l} h = \sqrt[3]{2} \\ h' = \frac{h}{\sqrt[3]{2}} \cdot \left(\frac{\sqrt[3]{2^2}}{\sqrt[3]{2^2}} \right) \\ h^3 = \frac{h^3 \sqrt[3]{4}}{2} \end{array} \right.$$

$$\begin{aligned} \textcircled{04} \quad 5^2 &= 3^2 + h^2 \\ 25 &= 9 + h^2 \\ -h^2 &= 9 - 25 \\ -h^2 &= -16 \\ h^2 &= 16 \\ h &= \sqrt{16} = 4 \text{ cm} \end{aligned}$$

$$\begin{aligned} \textcircled{05} \quad \left\{ \begin{array}{l} A_b = \pi \cdot R^2 \\ A_b = \pi \cdot 2^2 \\ A_b = 4\pi \text{ m}^2 \end{array} \right. & \left\{ \begin{array}{l} A_b = \pi \cdot 5^2 \\ A_b = 25\pi \text{ m}^2 \end{array} \right. & \begin{array}{l} \text{Área lateral} \\ g^2 = (R - r)^2 + h^2 \\ g^2 = (5 - 2)^2 + 4^2 \\ g^2 = 3^2 + 16 \\ g^2 = 9 + 16 \\ g^2 = 25 \\ g = \sqrt{25} = 5 \text{ m} \end{array} & \begin{array}{l} A_l = \pi \cdot 5 \cdot (5 + 2) \\ A_l = 5\pi \cdot 7 \\ A_l = 35\pi \text{ m}^2 \end{array} \end{aligned}$$

$$\begin{aligned} \text{Área total} \\ A_T &= 25\pi + 4\pi + 35\pi \\ A_T &= 64\pi \text{ m}^2 \end{aligned}$$

continuação ⑤ - troncos

$$V = \frac{(\pi \cdot h)}{3} \cdot (R^2 + R \cdot r + r^2)$$

$$V = \frac{3,14 \cdot 4}{3} (5^2 + 5 \cdot 2 + 4^2)$$

$$V = \frac{12,56}{3} \cdot (25 + 10 + 16)$$

$$V = \frac{12,56}{3} \cdot 51 = 213,56$$

$$\textcircled{06} V_{\text{tronco}} = \frac{\pi \cdot x}{3} (R^2 + r^2 + R \cdot r)$$

$$\frac{\pi \cdot 3}{3} = (7^2 + 3^2 + 21)$$

$$\pi = (49 + 9 + 21)$$

$$\pi = 79$$

⑦ não consegui fazer!