

1-)

Pela rotação de um semi-círculo em torno do seu diâmetro

C

$$2-) V_{\text{es}} = \frac{4\pi r^3}{3} \rightarrow \frac{4\pi r^3}{3} = 1000000 \cdot \frac{4\pi}{3}$$

$r = 100$  vezes maior

$$3-) V_{\text{cilindro}} = \pi (2r)^2 \cdot 4r = \pi 16r^3$$

$$\frac{V_{\text{es}}}{V_{\text{ci}}} = \frac{4\pi r^3}{3} / \frac{16\pi r^3}{12} = \frac{1}{12}$$

E

$$4-) V_{\text{es}} = \frac{4 \cdot \pi \cdot 1^3}{3} = \frac{4\pi}{3} \quad V_{\text{es}} = \frac{4\pi \cdot 2^3}{3} = \frac{32\pi}{3}$$

B

$$V_{\text{ci}} = V_T = A_b \cdot h \rightarrow 12\pi = \pi r^2 \cdot 3 \rightarrow r = \sqrt{4} = 2$$



$$5 - V_1 = \pi r^2 \cdot h = \pi \cdot 36 \cdot h \quad V_2 = \pi \cdot r^2 \cdot (h+1) = 36\pi$$

$$V_3 = \frac{4}{3}\pi r^3 \rightarrow 36\pi = \frac{4}{3}\pi r^3 \rightarrow \frac{108}{4} = r^3 \rightarrow r = 3$$

$$6 - \frac{288\pi}{3} = \frac{4\pi \cdot r^3}{3} \rightarrow \frac{864}{3} = r^3 \rightarrow r = 6$$

$$\text{aresta} = 2 \cdot r = 2 \cdot 6 = 12$$

$$7 - V_{\text{pomela}} = A_6 \cdot h = 10^2 \pi \cdot 16 = 1600\pi$$

$$V_{\text{bolinho}} = \frac{4}{3}\pi \cdot 2^3 = \frac{32\pi}{3} \quad \frac{V}{v} = \frac{1600\pi \cdot 3}{32\pi}$$

$$8 - \frac{V}{h} = \frac{2\pi R^2}{3} \quad \frac{2\pi R^2}{3} = \pi R^2 \cdot H \rightarrow 2R = 3H \quad C > 150$$

$$V_a = \pi R^2 \cdot H$$

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

$$\frac{2\pi R^2}{3} = \frac{1}{3} \pi R^2 \cdot h \rightarrow 2R = h$$

$$2R = 3H = h \quad R:D$$

$$9 - \frac{360}{60} = \frac{4\pi r^2}{3} \quad 360x = 60 \cdot \frac{4\pi r^2}{3}$$

$$x = \frac{2160\pi}{360} = 6\pi \text{ cm}^2$$

$$10 - \frac{360}{60} = \frac{4}{3}\pi r^2 \quad 360x = 60 \cdot \frac{4}{3}\pi r^2$$

$$x = \frac{2160\pi}{360} = 6\pi \text{ cm}^3$$

$$10 - A = \frac{4}{3}\pi R^2$$

$$R = \sqrt{\frac{100\pi}{4\pi}} = 5$$

$$R^2 = r^2 + (h - R^2)$$

$$5 = 30$$

$$2h$$

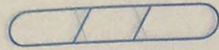
$$h = 3 \text{ m}$$

$$y^2 = h^2 + r^2$$

$$(\sqrt{30})^2 = h^2 + r^2$$

$$30 = h^2 + r^2$$





$$11- A_c = 6a^2 \quad A_d = 4\pi r^2 = 4\pi \left(\frac{a}{2}\right)^2 = \frac{4\pi a^2}{4} = \pi a^2$$

$$\frac{\pi a^2}{6 a^2} = \frac{\pi}{6} \quad A$$

12-

$$2R = a\sqrt{3}$$

$$V_d = \frac{4\pi r^3}{3} / \omega^3 = \frac{4\pi r^3}{3a^3}$$

$$R = \frac{a\sqrt{3}}{2}$$

$$V_c = \frac{4\pi r^3}{3}$$

$$3a^3$$

$$= \frac{4\pi}{3a^3} \left(\frac{3\sqrt{3}}{2}\right)^3 = \frac{4\pi}{3a^3} \cdot \frac{27\sqrt{3}}{8} = \frac{\sqrt{3}}{2}$$

$$13- V_c = A_b \cdot h = \pi \cdot r^2 \cdot \omega \cdot r = \pi a^2 \cdot 2 \cdot 2 = 4\pi a^2$$

$$r = 12 - 2r \rightarrow r = \frac{12 - 2r}{3} \rightarrow 3r = 12 - 2r \rightarrow 5r = 12$$

$$r = \frac{12}{5} = 2.4$$

$$r = \frac{36}{10} = 3.6$$

14-

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

3

$$V = \frac{\pi}{3} \cdot (4^2 \cdot 4 \cdot 2 + 4^2)$$

3

$$V = \frac{\pi}{3} \cdot 16 + 8 + 4 = V = \frac{28\pi}{3} \text{ cm}^3$$