1-)

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

C

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

$r = 100$ vezes maior

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

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

E

4-) $V_{es1} = \frac{4 \cdot \pi \cdot 1^3}{3} = \frac{4\pi}{3}$ $V_{es2} = \frac{4\pi \cdot 2^3}{3} = \frac{32\pi}{3}$

B

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

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

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

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

aresta $= 2 \cdot r = 2 \cdot 6 = 12$

7- $V_{panela} = A6 \cdot h = 10^2 \pi \cdot 16 = 1600\pi$

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

$\rightarrow 150$

8- $V_h = \frac{2\pi R^3}{3}$ $\frac{2\pi R^3}{3} = \pi R^2 \cdot H \rightarrow 2R = 3H$

$V_{ci} = \pi R^2 \cdot H$

$V_{co} = \frac{1}{3}\pi R^2 \cdot h$ $\frac{2\pi R^3}{3} = \frac{1}{8}\pi R^2 \cdot h \rightarrow 2R = h$

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

9- a- $0 \rightarrow 360 - 4\pi r^2$

$60 - x$ $360x = 60 \cdot 4\pi r^2$

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

b- $360 - 4/3\,\pi r^3$

$60 - x$ $360x = 60 \cdot \frac{4}{3} \cdot \pi^3$

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

10- $A = 4\pi \cdot R^2$

$R = \sqrt{\frac{100\pi}{4\pi}} = 5$ $R^2 = r^2 + (h - R^2)$

$5 = \frac{30}{2h}$

$h = 3m$ $g^2 = h^2 + r^2$

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

$30 = h^2 + r^2$

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

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

12-

$2R = a\sqrt{3}$ $V_s = \frac{4\pi r^3}{3} / a^3 = \frac{4\pi r^3}{3a^3}$

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

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

13- $V_c = A_b \cdot h = \pi \cdot r^2 \cdot 2 \cdot r = \pi 2^2 \cdot 2 \cdot 2 = 16\pi$

$\frac{r}{R} = \frac{12-2r}{12} \rightarrow \frac{r}{3} = \frac{12-2r}{12} \rightarrow 12r = 36-6r$

$r = \frac{36}{18} = 2$

14-

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

$V = \frac{12\pi}{3} \cdot (4^2 \cdot 4 \cdot 2 + 2^2)$

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