Tarefa Básica 1

1) "Considere uma semi-circunferência" (C)

2) $\frac{4}{3}\pi R^3 = 1000000 \cdot \frac{4}{3}\pi$

$R = \sqrt[3]{1\,000\,000} = 10^2 = 100$

3) $V_C = \pi 4r^2 \cdot 4r = 16\pi r^3$

razão $= \frac{4\pi r^3/3}{16\pi r^3} = \frac{1}{12}$ (E)

4) $V = \frac{4\pi \cdot 1^3}{3} + \frac{4\pi \cdot 2^3}{3} = (4\pi/3)(1^3 + 2^3)$

$V = 12$

$12\pi = \pi r^2 \cdot 3$

$r^2 = \frac{12\pi}{3\pi} \rightarrow r = \sqrt{4} = 2$ (B)

5) $V_{C1} = \pi \cdot 6^2 \cdot 1 = 36\pi$

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

$r^3 = 27$

$r = 3$ (C)

6) $V = 4\pi r^3/3 = 288\pi$

$V = 216\, r^3$

$r = 6 \qquad L = 2 \cdot r = 12$ cm (E)

7) $V = 10^2 \cdot \pi \cdot 16 \qquad V' = \frac{4}{3}\pi \cdot 2^3 = \frac{32\pi}{3} \qquad \frac{1600\pi}{\frac{32\pi}{3}} = 150$

$V = 1600\pi$ (D)

Tarefa Básica 2

1)

2) $4 \cdot \pi r^2 \rightarrow 4\pi (a/2)^2 = \pi a^2$
área superfície esfera

$$\text{razão} = \frac{\pi a^2}{6a^2} = \frac{\pi}{6} \quad (A)$$

3) $V_c = \frac{4}{3} \pi r^3 \; a^3 \rightarrow \frac{4\pi r^3}{3a^3}$

$2R = a\sqrt{3}$

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

4) $V = \pi \cdot 3^2 \cdot 12$

$V = \pi \cdot 9 \cdot 12$

$V = 108\pi$

5) $V = \frac{(\pi 1)}{3} \cdot (2^2 + 4 \cdot 2 + 4^2)$

$V = \frac{\pi}{3} \cdot (4 + 8 + 16) \rightarrow \frac{\pi}{3} \cdot 28 = \frac{28\pi}{3} \; cm^3$