1 / 1

1-

(C) - PELA ROTAÇÃO DE UM SEMICÍRCULO EM TORNO DO SEU DIAMETRO

DE ACORDO COM A EXPLICAÇÃO DO PDF EM "ESFERAS E SUAS PARTES"

2-

$$V_1 = \frac{4\pi R^3}{3} = \frac{4\pi 1^3}{3} \Rightarrow \frac{4\pi}{3}$$

$$V_2 = \frac{4\pi R^3}{3}$$

$$\frac{4\pi R^3}{3} = 1.000.000 \cdot \frac{4\pi}{3}$$

$$R^3 = 10^6 \Rightarrow R = \sqrt[3]{10^6} = 10^2 = 100 \text{ m}$$

3-

$$V_E = \frac{4\pi R^3}{3}$$

$$V_C = \pi R^2 h$$

$$R = 2R$$

$$h = 4R$$

CILINDRO EQUILATERO

$$\frac{\frac{4\pi R^3}{3}}{\pi 4R^2 4R} = \frac{4\pi R^3}{3} \Rightarrow$$

$$\frac{4\pi R^3}{48R^3\pi} = \frac{4}{48} \div 4 = \frac{1}{12}$$

LETRA (E)

X X

4-

$B_1 + B_2 = C$

$\frac{4\pi 1^3}{3} + \frac{4\pi 2^3}{3} = \frac{\pi R^2 3}{3} \Rightarrow 36\pi = \pi R^2 3 \Rightarrow$

$12\pi = \pi R^2 3 \Rightarrow R^2 = \frac{12}{3} \Rightarrow R = \sqrt{4} = 2$ //

LETRA (B)

5-

$V_C = \pi . 6^2 . 1$

$V_C = 36\pi$

$V_E = \frac{4\pi R^2}{3} \Rightarrow \frac{36}{3} = \frac{4\pi R^3}{3} \Rightarrow$

$108\pi = 4\pi R^3 \Rightarrow R^3 = \frac{108}{4} = \sqrt[3]{27} = 3$ //

LETRA (C)

6-

$288\pi = \frac{4\pi R^3}{3}$

$864 = 4R^3$

$R^3 = 216 \Rightarrow \sqrt[3]{216}$

$R = 6$ //

DIAMETRO = ARESTA

$D = 2 . R$

$D = 12$

$D = A$

$A = 12$ // LETRA (E)

7 -

$R_C = 10$ | $V_C = \pi R^2 h$ | $V_E = \frac{4\pi . 2^3}{3}$ | $1600\pi = \frac{32\pi}{3}$

$h = 16$ | $V_C = \pi 100 . 16$ | | $4800\pi = 32\pi$

$R_E = 2$ | $V_C = 1600\pi$ | $V_E = \frac{32\pi}{3}$ | $\frac{4800}{32} = 150$ //

LETRA (D)

8 -

$V_H = \frac{2\pi R^3}{3}$ | $\frac{2\pi R^3}{3} = \frac{\pi R^2 . h}{3} \Rightarrow 2R = h$

$\frac{2\pi R^3}{3} = \pi R^2 . H \Rightarrow 2R = 3H$

$V_C = \pi . R^2 . H$

$V_\Delta = \frac{\pi R^2 . h}{3}$ | $2R = 3H = h$ LETRA (D)

1 -

$A_E = 4\pi R^2$

$100\pi = 4\pi R^2$

$R^2 = 25$

$R = 5$ //

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

$R^2 = r^2 + h^2 - 2h.R + R^2$

$R = \frac{r^2 + h^2}{2h}$

$5 = \frac{30}{2h} \Rightarrow h = \frac{30}{10}$

$h = 3\ m$ //

↳ $g^2 = h^2 + r^2$

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

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

2 - $A_E = 4\pi R^2$

$A_C = 6.L^2$

$L = 2R$

$R = L/2$

$\frac{4\pi(L/2)^2}{6.L^2} = \frac{\pi L^2}{6L^2} = \frac{\pi}{6}$ //

LETRA (A)

3 -

$\frac{V_{ESFERA}}{V_{CUBO}}$

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

$2R = a\sqrt{3}$

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

$\frac{V_E}{V_C} = \frac{\frac{4\pi R^3}{3}}{a^3} \Rightarrow \frac{4\pi R^3}{3a^3} \Rightarrow$

$\frac{4\pi}{3a^3}\left(\frac{a\sqrt{3}}{2}\right)^3 \Rightarrow \frac{4\pi a^3 3\sqrt{3}}{3a^3.8} = \frac{12\sqrt{3}}{24} = \frac{\sqrt{3}\pi}{2}$ //

LETRA (B)

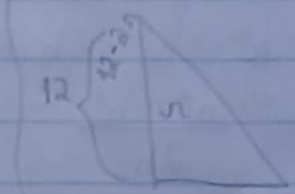
4-

$V_C = A_b \cdot h$

$\pi r^2 \cdot 2r$

$\pi 2^2 \cdot 2 \cdot 2$

16π //



$\frac{r}{R} = \frac{12-2r}{12} \Rightarrow$

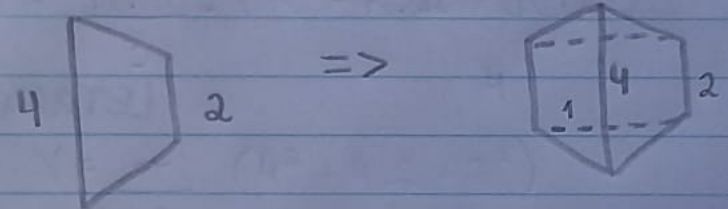
$\frac{r}{3} = \frac{12-2r}{12}$

$12r = 36 - 6r$

$18r = 36$

$r = 2$

5-



2 CONES + 1 CILINDRO

$V_C = \frac{1}{3} \cdot \pi \cdot 1^2 = \frac{\pi}{3} \cdot 2 = \frac{2\pi}{3}$ //

$V_{\square} = \pi 1^2 \cdot 2 = 2\pi$

$V_T = \frac{2\pi}{3} + \frac{2\pi}{1} = \frac{8\pi}{3}$ //