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Tarefa Básica - Esferas e suas Partes

01. Letra C

02 $V_{E1} = \frac{4\pi 1^3}{3} = \frac{4\pi}{3}$ $V_{E2} = 10^6 \cdot V_{E1} = \frac{10^6 4\pi}{3}$

$\frac{4\pi r^3}{3} = \frac{10^6 4\pi}{3} \Rightarrow r^3 = 10^6$

$r = \sqrt[3]{10^6}$

$r = 10^2$

$r = 100$ ✓

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

$V_{cil} = 2\pi R^3$

$V_{cil} = 2\pi (2R)^3$

$V_{cil} = 2.8\pi R^3$

$V_{cil} = 16\pi R^3$

$\frac{V_E}{V_{cil}} = \frac{\frac{4\pi R^3}{3}}{16\pi R^3} = \frac{4\pi R^3}{3.16\pi R^3} =$

$\frac{V_E}{V_{cil}} = \frac{4}{48} = \frac{1}{12}$ Letra E! ✓

04. $V_{B1} = \frac{4\pi 1^3}{3} = \frac{4\pi}{3}$ $V_{B2} = \frac{4\pi 2^3}{3} = \frac{32\pi}{3}$

$V_{CIL} = V_{B1} + V_{B2} = \frac{4\pi}{3} + \frac{32\pi}{3} = \frac{36\pi}{3} = 12\pi$

$V_{CIL} = 12\pi$

$\pi r^2 h = 12\pi$

$r^2 . 3 = 12$

$r^2 = 12/3$

$r = \sqrt{4} = 2$ Letra B

05. $V_L = \pi 6^2 . 1$

$V_L = 36\pi$

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

$4r^3 = 108$

$r^3 = \sqrt[3]{27}$

$r = 3$ Letra C

06. $V_E = 288\pi$

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

$r^3 = \frac{864}{4}$

$r = \sqrt[3]{216}$

$r = 6$

$2R_1 = 12$

$a = 12$ Letra E

07. $2R = 20$ $h = 16$ $V_P = \pi r^2 h$ $V_B = \frac{4\pi r^3}{3}$

$r = 10$ $V_P = \pi 10^2 . 16$ $V_B = \frac{4\pi 2^3}{3}$

$V_P = 1600\pi$ $V_B = \frac{32\pi}{3}$

$$\frac{V_P}{V_B} = \frac{1600\pi}{\frac{32\pi}{3}} = 1600\pi . \frac{3}{32\pi} = 50.3 = 150$$ Letra D

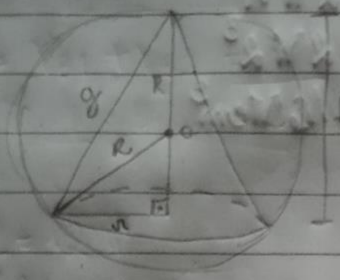
08. $V_H = V_C$ $V_{cil} = V_{cone}$ $2R = h = 3H$

$\frac{2\pi R^3}{3} = \pi R^2 H$ $\pi R^2 H = \frac{\pi R^2 h}{3}$ Letra D

$2R = 3H$ $h = 3H$

Tarefa Básica - Inscrição e Circunscrição de Sólidos

01.



$S_E = 100\pi$ $\quad g_C = \sqrt{30}$ cm

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

$R^2 = 100/4$

$R = \sqrt{25}$

$R = 5$

02. $A_{SE} = 4\pi r^2$ $\quad 2c = 2r\sqrt{3}$ $\quad \frac{A_{SE}}{A_{TC}} = \frac{4\pi r^2}{6 \cdot 4r^2} = \frac{\pi}{6}$ Letra B

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

$a = 2r$

$A_{TC} = 6a^2$

$= 6 \cdot (2r)^2$

$= 6 \cdot 4r^2$

$= 24r^2$

03. $V_E = \frac{4\pi R^3}{3}$ $\quad 2a = 2R$ $\quad V_C = a^3$

$a\sqrt{3} = 2R$

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

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

$V_C = \left(\frac{2\sqrt{3}R}{3}\right)^3$

$V_C = \frac{8 \cdot 3\sqrt{3} \cdot R^3}{27}$

$V_C = \frac{24\sqrt{3}R^3}{27}$

$\frac{V_E}{V_C} = \frac{\frac{4\pi R^3}{3}}{\frac{24\sqrt{3}R^3}{27}}$

$= \frac{108\pi R^3}{72\sqrt{3}R^3} = \frac{3\pi}{2\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{3\sqrt{3}\pi}{2 \cdot 3} = \frac{\sqrt{3}\pi}{2}$ Letra B

FORONI

04. R=3 $\frac{H_{CO}}{D_{CO}} = \frac{h_{CIL}}{D_{CIL}}$ r=2

H=12

$\frac{12}{6} = \frac{H-x}{x}$ $V_{CIL} = 2\pi r^3$

$V_{CIL} = 2\pi 2^3$

$V_{CIL} = 16\pi cm^3$

$12x = 6.12 - 6x$

$18x = 72$

$x = 4 = 2R$

05. $V_{SOLIDO} = V_{TRONCO} = \frac{\pi h}{3}(R^2 + r^2 - R.r)$

R=2

r=1

$= \frac{\pi 1}{3}(2^2 + 1^2 - 2.1)$

$= \frac{\pi}{3}(5-2)$

$= \frac{3\pi}{3} = \pi$ (não consegui achar o resultado)