Tarefa Básico

Cones

1- $\frac{2\pi . 20}{2}$

$\frac{40\pi}{2}$

20π

$2\pi R = 20\pi$

$2R = 20$

$R = \frac{20}{2}$

$R = 10$

$10^2 + h^2 = 20^2$

$100 + h^2 = 400$

$h^2 = 400 - 100$

$h^2 = 300$

$h = \sqrt{300} = 10\sqrt{3}$ cm (A)

2- $64\pi = \frac{1}{3}\pi r^2 . 12$

$64\pi = \pi r^2 . 4$

$\frac{64\pi}{4} = \pi r^2$

$16\pi = \pi r^2$

$16 = r^2$

$r = \sqrt{16}$

$r = 4$

$g^2 = 12^2 + 4^2$

$g^2 = 144 + 16$

$g^2 = 160$

$g = \sqrt{160}$

$g = 4\sqrt{10}$ (B)

3- $1b = \pi r^2$

$36\pi = \pi r^2$

$r = \sqrt{36}$

$r = 6$

$V = \frac{1}{3}\pi r^2 . h$

$V = \frac{1}{3}\pi 6^2 . 6$

$V = \frac{1}{3}\pi 36 . 6^2$

$V = \pi 36 . 2$

$V = 72\pi$ cm³ (A)

4- $\text{sen } 45° = \frac{CO}{2}$ $\quad V = \frac{1}{3}\pi \cdot 1^2 \cdot 1$ $\quad Vt = 2 \cdot \frac{\pi}{3}$

$\frac{\sqrt{2}}{2} = \frac{CO}{2}$ $\quad V = \frac{\pi}{3}$ (E) $\quad \boxed{Vt = \frac{2\pi}{3}}$

$CO = \sqrt{2}$

5- $V' = \pi r^2 \cdot h$ $\quad V'' = \frac{1}{3}\pi \cdot 1^2 \cdot 3$ $\quad \frac{V_1}{2} = \frac{90\pi}{2} = 45\pi$

$V' = \pi 3^2 \cdot 10$ $\quad V'' = \frac{1}{3}\pi \cdot 1 \cdot 3$

$V' = \pi 9 \cdot 10$ $\quad V_{lg} = 45\pi - \pi$

$V' = 90\pi$ $\quad V'' = \pi$ $\quad \boxed{V_{lg} = 44\pi}$ (E)

6- $V_C = \frac{1}{3} \cdot Ab \cdot h$ $\quad \frac{V_p}{V_C} = \frac{Ab \cdot \frac{2h}{3}}{\frac{1}{3} \cdot Ab \cdot h} = \left(\frac{\frac{2}{3}}{\frac{1}{3}} = \frac{6}{3} = \boxed{2}\right)$ (A)

$V_p = Ab \cdot \frac{2h}{3}$

7- $\frac{\frac{1}{3}\pi r^2 \cdot h}{\pi \cdot r^2 \cdot h} = \frac{1}{3}\left(\frac{\frac{1}{3}}{\frac{2}{3}} = \frac{3}{6} = \boxed{\frac{1}{2}}\right)$ (E)

Tarefa Básica

Troncos

1- $\frac{8}{h} = K$ $\quad V_p = \frac{1}{2} V_g$ $\quad \frac{8}{h} = \sqrt[3]{2}$ $\quad x = \frac{8 \cdot \sqrt[3]{2^2}}{2}$

$\frac{V_g}{V_p} = K^3$ $\quad \frac{V_g}{\frac{1}{2}V_g}$ $\quad \frac{8}{\sqrt[3]{2}} = x$

$K = \sqrt[3]{2}$ $\quad x = 8 - \frac{\sqrt[3]{2^2}}{\sqrt[3]{2^3}}$ $\quad \boxed{x = 4\sqrt[3]{4}}$ (E)

2- $Ab = \pi . r^2$

$V_g = \pi . r^2 . 20$

$V_p = \pi . r^2 . 16$

$V_p = \pi \left(\frac{4r}{5}\right)^2 . 16$

$V_p = \pi . r^2 . \frac{256}{25}$

$\frac{r}{20} = \frac{r'}{16}$

$16r = 20r'$

$\frac{16r}{20} = r'$

$r' = 16r^4 = \frac{4r}{5}$

$V_g - V_p = 20r^2\pi - \left(\frac{256}{25}\right) . r^2\pi = \frac{256}{25} . \pi . r^2$

$\frac{244}{25} : 20 = \frac{244}{500} = 0,488 \simeq \boxed{50\%}$

(C)

3- $\frac{V_p}{V_g} = \frac{\Delta}{2}$ $\quad \frac{x}{h} = \frac{\sqrt[3]{4}}{2}$ $\quad \boxed{x = \frac{h\sqrt[3]{4}}{2}}$

$\frac{1}{2} = k^3$

$K = \sqrt[3]{\frac{1}{2}} = \frac{1}{\sqrt[3]{2}} . \frac{\sqrt[3]{2^2}}{\sqrt[3]{2^2}} = \frac{1\sqrt[3]{2^2}}{\sqrt[3]{2}\sqrt[3]{2}} = \frac{\sqrt[3]{4}}{\sqrt[3]{2.2^2}} = \frac{\sqrt[3]{4}}{\sqrt[3]{2^3}} \quad K = \frac{\sqrt[3]{4}}{2}$

4- $5^2 = x^2 + 3^2$

$25 = x^2 + 9$

$x^2 = 25 - 9$

$x^2 = 16$

$x = \sqrt{16}$

$\boxed{x = 4\ cm}$

$5 - x^2 = 3^2 + 4^2$

$x^2 = 9 + 16$

$x = \sqrt{25}$

$x = 5$

$At = \pi 2^2 + \pi 5^2 + \frac{(2\pi 2 + 2\pi 5).5}{2}$

$At = 4\pi + 25\pi + \frac{(4\pi + 10\pi)5}{2}$

$At = 29\pi + \frac{14\pi . 5}{2}$

$At = 29\pi + 7\pi . 5$

$At = 29\pi + 35\pi$

$\boxed{At = 64\pi}$ //

$V = \pi . \frac{4}{3} (5^2 + 2^2 + 5.2)$

$V = \frac{4\pi}{3} (25 + 4 + 10)$

$V = \frac{4\pi}{3} . 39$

$V = \frac{156\pi}{3}$

$\boxed{V = 52\pi}$ //

$6 - 5^2 = h^2 + 4^2$

$25 = h^2 + 16$

$h^2 = 25 - 16$

$h = \sqrt{9}$

$h = 3$

$V = \frac{\pi 3}{3} (7^2 + 3^2 + 7,3)$

$V = \pi (49 + 9 + 21)$

$V = \pi . 79$

$\boxed{V = 79\pi}$ //

$7 - \frac{Vp}{Vg} = \frac{1}{2}$

$\frac{1}{2} = K^3$

$K = \sqrt[3]{\frac{1}{2}} . \frac{\sqrt[3]{2^2}}{\sqrt[3]{2^2}} =$

$\frac{1}{\sqrt[3]{2}} \frac{\sqrt[3]{2^2}}{\sqrt[3]{2^2}} = \frac{\sqrt[3]{4}}{\sqrt[3]{2.2^2}} =$

$\rightarrow \frac{\sqrt[3]{4}}{\sqrt[3]{2^3}} = \frac{\sqrt[3]{4}}{2}$

$\frac{h}{H} = K$

$\frac{h}{H} = \frac{\sqrt[3]{4}}{2}$

$\boxed{h = \frac{H\sqrt[3]{4}}{2}}$ (A) //