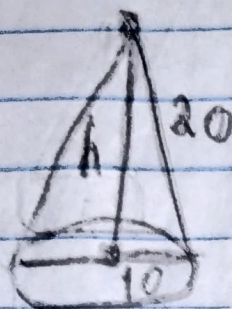
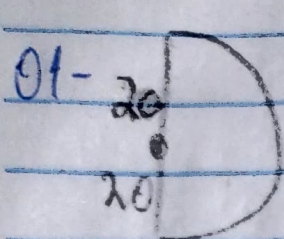


Exercícios - Cones



$$\begin{aligned} 20^2 &= 10^2 + h^2 \\ 400 - 100 &= h^2 \\ h &= \sqrt{300} \\ h &= 10\sqrt{3} \end{aligned}$$

$$\begin{aligned} d &= 20 \\ 2r &= 20 \\ r &= 10 \end{aligned}$$

$$\begin{array}{r|l} 300 & 2 \\ \hline 150 & 2 \\ 75 & 3 \\ 25 & 5 \\ 5 & 5 \\ 1 & \end{array}$$

(A)

02- $h = 12 \text{ cm}$ $V = 64\pi \text{ cm}^3$

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

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

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

$$r^2 = \frac{64\pi}{4\pi} = 16$$

$$r = \sqrt{16} = 4 \text{ cm}$$

$$\begin{aligned} g^2 &= h^2 + r^2 \\ g^2 &= 144 + 16 \\ g &= \sqrt{160} \\ g &= 4\sqrt{10} \text{ cm} \end{aligned}$$

$$\begin{array}{r|l} 160 & 2 \\ \hline 80 & 2 \\ 40 & 2 \\ 20 & 2 \\ 10 & 10 \end{array}$$

(B)

03- $r = h$

$$A_{\text{cone}} = 36\pi \text{ cm}^2$$

$$A_{\text{cone}} = \pi r^2$$

$$36\pi = \pi r^2$$

$$r^2 = \frac{36\pi}{\pi}$$

$$r = \sqrt{36} = 6 \text{ cm}$$

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

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

$$V = \frac{216\pi}{3}$$

$$V = 72\pi \text{ cm}^3$$

(A)

A diagram of an isosceles triangle with base 1, height 1, and equal sides of length $\sqrt{2}$. The base is labeled 1, the height is labeled 1, and the equal sides are labeled $\sqrt{2}$. The triangle is divided into two right-angled triangles by a vertical line from the apex to the base.

$$\begin{aligned} g^2 &= x^2 + x^2 \\ 2^2 &= 2x^2 \\ x^2 &= 2 \\ x &= \sqrt{2} \end{aligned}$$

$$V = \frac{1}{3} \tilde{u} r^2 h$$

$$\begin{aligned}(\sqrt{2})^2 &= 1^2 + y^2 \\ 2 - 1 &= y^2 \\ y &= 1\end{aligned}$$

(E)

$$V = \frac{1}{3} \tilde{U}^2 \cdot 1$$

$V = \frac{\tilde{V}}{3} \rightarrow$ girar a figura resulta em 2 cones, então: $2V = \frac{2\tilde{V}}{3}$

05- $V_{\text{cylinder}} = \tilde{u} \cdot r^2 \cdot (h/2)$ $V_{\text{cylinder}} = \frac{1}{3} \cdot \tilde{u} \cdot r^2 \cdot h$
 $= 11 \cdot 9 \cdot 5$
 $= 45 \tilde{u} \text{ u}^3$ $= \frac{3}{3} 11$ \textcircled{E}
 $= \tilde{u}$

$$V_{\text{Líquido}} = V_{\text{cilindro}} - V_{\text{Gase}} = 45 \text{ m}^3 - 1 \text{ m}^3 = 44 \text{ m}^3$$

$$\text{eg- } \frac{h_p}{h_c} = \frac{2}{3} \quad \frac{V_p}{V_c} = \frac{A_b \cdot h_p}{A_b \cdot h_c} = \frac{2}{3} = 2$$

(A)

27- A rectangle ABCD with diagonal AC. The length of the rectangle is labeled Y, and the width is labeled X.

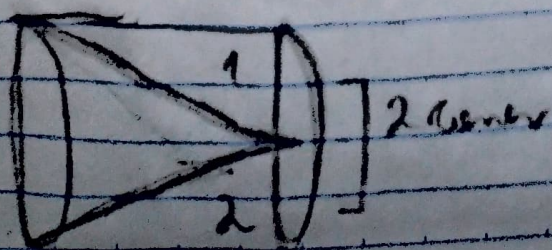
$$VABC + \frac{1}{3} (\tilde{U} X^2 \cdot Y) = \frac{\tilde{U} X^2 Y}{6}$$

$$\frac{V_{ABC}}{V_{ADC}} = \frac{1}{\frac{6}{\frac{1}{3}}}$$

$$\frac{V_{ABC}}{V_{ADC}} = \frac{\frac{1}{2} \times 2^2 \times \sqrt{3}}{\frac{1}{2} \times 4^2 \times \sqrt{3}}$$

VABC 5 3
VADC 6

$$\frac{V_{ABC}}{V_{ADE}} = \frac{1}{2}$$



Exercício - Tereza

01- $V_{\text{maior}} = \frac{1}{3} \pi R^2 H$

$= \frac{1}{3} \pi \cdot 9 \cdot 8$

$V_{\text{maior}} = 24\pi \text{ cm}^3$

$V_{\text{menor}} = \frac{1}{2} V_{\text{maior}}$

$= \frac{24\pi}{2}$

$V_{\text{menor}} = 12\pi \text{ cm}^3$

(E)

$V_{\text{menor}} = \left(\frac{x}{8}\right)^3 \rightarrow \frac{12\pi}{24\pi} = \frac{x^3}{512} \rightarrow 24x^3 = 6144$

$x^3 = 256$

$x = \sqrt[3]{256}$

$x = 4\sqrt[3]{4} \text{ cm}$

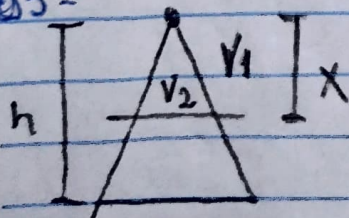
02- $\frac{V_{\text{Uq}}}{V_{\text{Tot}}} = \left(\frac{16}{20}\right)^3 = \left(\frac{8}{10}\right)^3 = \frac{512}{1000} = 51,2\%$

$V_{\text{Uq}} = 51,2\% \cdot V_{\text{Tot}}$

(C)

$\text{Resposta} = 100\% - 51,2\% = 48,8\% \approx 50\%$

03-



$\frac{v_2}{v_1} = \frac{1}{2}$

$\frac{1}{2} = \left(\frac{x}{h}\right)^3$

$x = \frac{\sqrt[3]{h^3}}{\sqrt[3]{2}}$

$\frac{1}{2} = \frac{x^3}{h^3}$

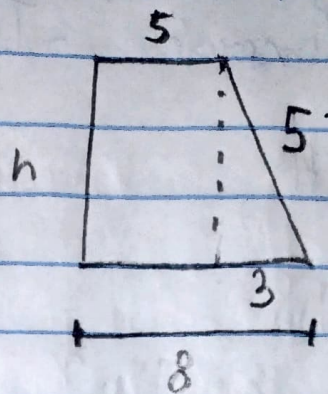
$x = \frac{h}{\sqrt[3]{2}} \cdot \sqrt[3]{\frac{1}{2}}$

$h^3 = 2x^3$

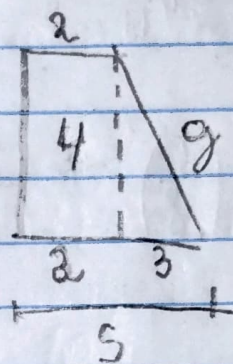
$x = \frac{h\sqrt[3]{4}}{2}$

$x^3 = \frac{h^3}{2}$

04- $h^2 = 5^2 - 3^2$
 $h^2 = 25 - 9$
 $h = \sqrt{16} = 4 \text{ cm}$



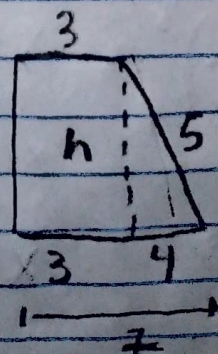
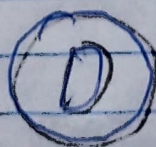
05- $g^2 = 3^2 + 4^2$
 $g^2 = 9 + 16$
 $g = \sqrt{25} = 5 \text{ m}$



AT = $\pi [(R^2 + r^2) + r(R+r)]$
AT = $\pi [(5^2 + 2^2) + 5(5+2)]$
AT = $\pi [(25+4) + 5(7)]$
AT = $\pi [29 + 35]$
AT = $64\pi \text{ m}^2$

$V = \frac{\pi h}{3} (R^2 + r^2 + R \cdot r)$ $V = \frac{156\pi}{3}$
 $V = \frac{4\pi}{3} (5^2 + 2^2 + 5 \cdot 2)$ $V = 52\pi \text{ m}^3$
 $V = \frac{4\pi}{3} (25 + 4 + 10)$
 $V = \frac{4\pi}{3} \cdot 39$

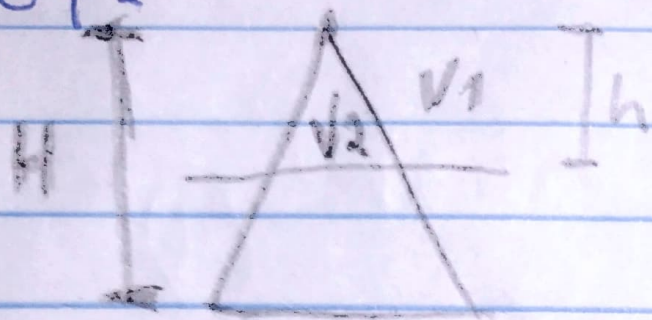
06- $h^2 = 5^2 - 4^2$
 $h^2 = 25 - 16$
 $h = \sqrt{9} = 3$



$V = \frac{3\pi}{3} (7^2 + 3^2 + 7 \cdot 3)$ $V = 79\pi \text{ cm}^3$

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

Q7-



$$\frac{v_2}{v_1} = \frac{1}{2}$$

$$\frac{1}{2} = \left(\frac{h}{H} \right)^3$$

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

$$\frac{1}{2} = \frac{h^3}{H^3}$$

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

$$H^3 = 2h^3$$

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

$$h^3 = \frac{H^3}{2}$$

A