Aluno: **Leonardo Yukio Aoki** Turma: **CTII 348**
Prontuário: **CB1990233** *IFSP - Câmpus Cubatão*

Tarefa Básica - Aula 5

1.

geratriz = 20 cm

$\frac{\pi(20)^2}{2} = \pi r 20$

$200 = 20r$

$r = 10$

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

$400 = 100 + h^2$

$h^2 = 300$

$h = \sqrt{300}$

$h = 10\sqrt{3}$ cm

A

2.

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

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

$64 = r^2 . 4$

$r^2 = 64/4$

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

$g^2 = h^2 + r^2$

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

$g^2 = 144 + 16$

$g = \sqrt{160}$

$g = \sqrt{2^2 . 2 . 2.5}$

$g = 4\sqrt{10}$

160 | 2 2²
80 | 2
40 | 2 2²
20 | 2
10 | 2 2.5
5 | 5
1

B

3.

$r = h = 6$cm

$Sb = 36\pi$ cm²

$V = ?$

$Sb = \pi r^2$

$36\pi = \pi r^2$

$36 = r^2$

$r = \sqrt{36}$

$r = 6$ cm $= h$

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

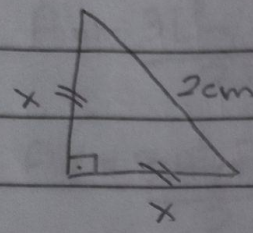
$V = \frac{\pi 36 . 6}{3}$

$V = \frac{\pi 36 . 2}{}$

$V = 72\pi$

A

4.

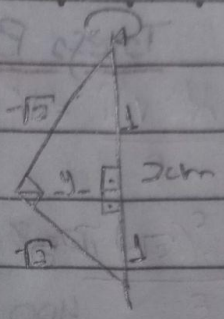


$2^2 = x^2 + x^2$

$4 = 2x^2$

$x^2 = 2$

$x = \sqrt{2}$

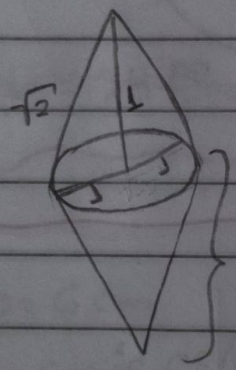


$\sqrt{2}^2 = y^2 = 1^2$

$2 = y^2 = 1$

$y = \sqrt{1}$

$y = 1$



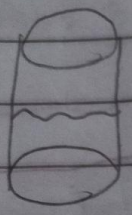
$V = \frac{\pi \cdot 1^2 \cdot 1}{3}$

$V = \frac{\pi 1}{3}$

$V = \frac{\pi 1}{3} \cdot 2 \Rightarrow \boxed{\frac{2\pi}{3}}$

E

5.



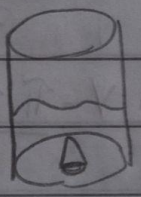
$V = \pi 3^2 \cdot 10$

$V = \pi 90 \ (\div 2)$

$V = 45\pi$

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

$V = \pi$



$\Rightarrow (45\pi) - \pi$

$\boxed{44\pi}$

E

6.

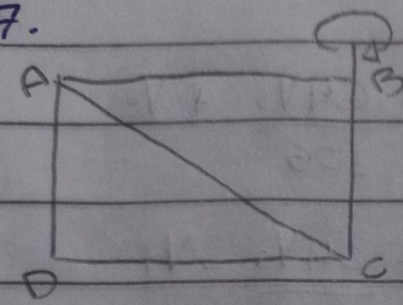
$V_p = b \cdot \frac{h2}{3}$

$V_c = \frac{b \cdot h}{3}$

$\frac{\frac{b \cdot h2}{3}}{\frac{b \cdot h}{3}} = \frac{2}{1} = \boxed{2}$

A

7.



Simulando valores:

$\overline{AB} = 2$

$\overline{AD} = 1$

$$V_{ABC} = \frac{\pi r^2 . 1}{3} = \boxed{\frac{4\pi}{3}}$$

$$V_{ADC} = (\pi r^2 . 1) - V_{ABC}$$

$$V_{ADC} = \frac{4\pi}{1} - \frac{4\pi}{3}$$

$$V_{ADC} = \frac{12\pi - 4\pi}{3}$$

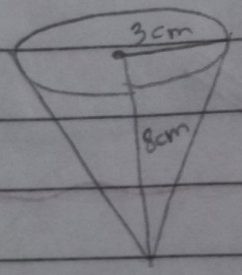
$$\boxed{V_{ADC} = \frac{8\pi}{3}}$$

Razão: $\dfrac{V_{ABC}}{V_{ADC}}$

$$\frac{\frac{4\pi}{3}}{\frac{8\pi}{3}} = \frac{4}{8} = \boxed{\frac{1}{2}}$$

E

1.



$V_T = \frac{\pi 3^2 . 8}{3}$

$V_T = \pi 3.8$

$V_T = 24\pi\ cm^3$

$V_{p/\ líquido} = \frac{24\pi}{2} = 12\pi\ cm^3$

$\frac{V_T}{V} = \frac{H^3}{h}$

$\frac{24\pi}{12\pi} = \frac{8^3}{h^3}$

$2 = \frac{8^3}{h^3}$

$2h^3 = 8^3$

$h^3 = 512$

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

256 | 2
128 | 2
64 | 2
32 | 2
16 | 2
8 | 2
4 | 2
2 | 2
1

$h = \sqrt[3]{2^3 . 2^5 . 2^0}$

$h = 4\sqrt[3]{4}\ cm$

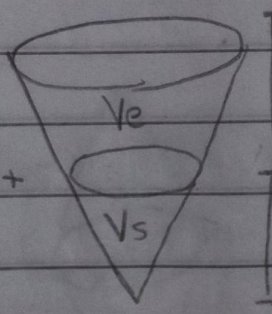
E

2.

V_T = Total

V_S = Sorvete

V_e = Espuma



$\frac{V_S}{V_T} = \left(\frac{16}{20}\right)^3$

$\frac{V_S}{V_T} = \frac{4^3}{5^3}$

$\frac{V_S}{V_T} = \frac{64}{125}$

$V_S = \frac{64 V_T}{125}$

$V_T = \frac{64 V_S}{125} + V_e$

$V_e = \frac{64 V_S}{125} - V_T$

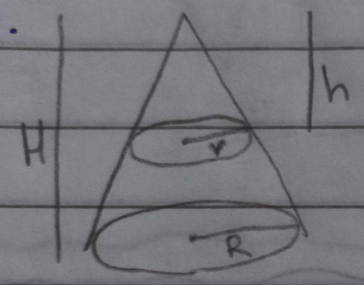
$V_e = \frac{61 V_S}{125}$

$V_e = 0,488 V_S$

$V_e \cong 50\%$

C

3.



$$\frac{V_2}{V_1} = \frac{1}{2}$$

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

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

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

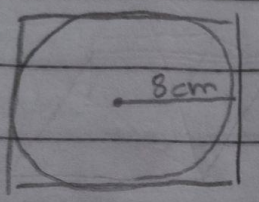
$$h^3 = \frac{H^3}{2}$$

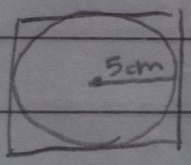
$$h = \frac{\sqrt[3]{H^3}}{\sqrt[3]{2}}$$

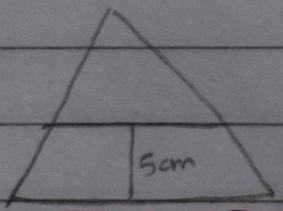
$$h = H \cdot \frac{\sqrt[3]{2^3}}{\sqrt[3]{2}\ \sqrt[3]{2^3}}$$

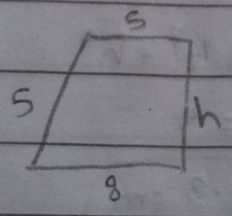
$$h = \frac{H\sqrt[3]{4}}{2}$$

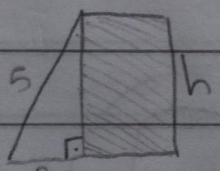
4.











$$5^2 = h^2 + 3^2$$

$$25 = h^2 + 9$$

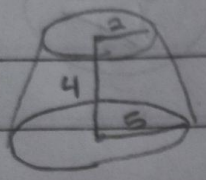
$$h^2 = 16$$

$$h = \sqrt{16}$$

$$h = 4\text{cm}$$

4 cm

5.



$V = \frac{\pi 4}{3}(5^2 + 10 + 2^2)$

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

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

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

$V = 52\pi$

$A_l = \pi 5(2+5)$

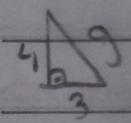
$A_l = 35\pi$

$A_B = \pi 5^2 = 25\pi$

$A_b = \pi 2^2 = 4\pi$

$A = 35\pi + 25\pi + 4\pi$

$A = 64\pi$



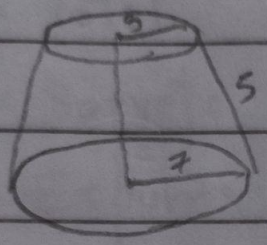
$g^2 = 4^2 + 3^2$

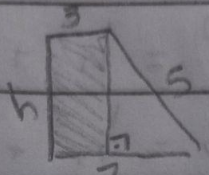
$g^2 = 16 + 9$

$g = \sqrt{25}$

$g = 5\,m$

6.





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

$h^2 = 9$

$h = 3\,cm$

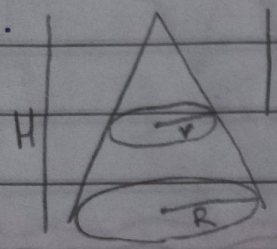
$V = \frac{\pi . 3}{3}(7^2 + 21 + 3^2)$

$V = \pi . 49 + 21 + 9$

$V = 79\pi$

D

7.



$$\frac{V_2}{V_3} = \frac{1}{2}$$

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

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

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

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

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

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

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

A