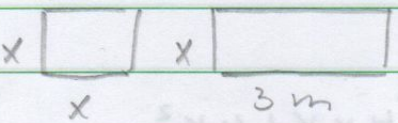
Beatriz Bastos Borges Nº 03 CT II 35C

Tarefa Básica - Prismas

1. 

$A_b = x^2$

$A_L = 4 \cdot 3 \cdot x \rightarrow A_L = 12x$

$80 = 2x^2 + 12x \rightarrow 2x^2 + 12x - 80 = 0 \rightarrow x^2 + 6x - 40 = 0$

S $4 + (-10) = (-6)$ $\boxed{x' = 4\ m}$

P $4 \cdot (-10) = (-40)$ $x'' = (-10)$ não convém

2. $24\sqrt{3} = \frac{3\sqrt{3} \cdot L^2}{2} \rightarrow 48\sqrt{3} = 3\sqrt{3} \cdot L^2 \rightarrow L^2 = \frac{48\sqrt{3}}{3\sqrt{3}}$

$L = \sqrt{16} \rightarrow L = 4$

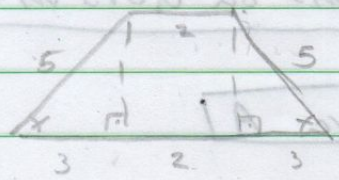
$A_L = 6 \cdot 4 \cdot 2\sqrt{3} \rightarrow \boxed{A_L = 48\sqrt{3}\ m^2}$

3. 

$A_b = \frac{3\sqrt{3} \cdot 2^2}{2} \rightarrow \boxed{A_b = 6\sqrt{3}}$

$A_L = 6 \cdot 2 \cdot \sqrt{3} \rightarrow A_L = 12\sqrt{3}$

$A = 2 \cdot 6\sqrt{3} + 12\sqrt{3} \rightarrow \boxed{A = 24\sqrt{3}}$ $\boxed{\text{Alternativa B}}$

4. 

$5^2 = 3^2 + h^2 \rightarrow h^2 = 25 - 9 \rightarrow h = \sqrt{16}$

$h = 4$

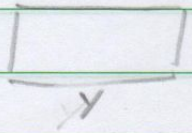
$A_b = \frac{(2+8)4}{2} \rightarrow A_b = 20$

$V = 20 \cdot 5 \rightarrow \boxed{V = 100}$

$\boxed{\text{Alternativa D}}$

5. $A_b = \frac{10 \cdot 15}{2} \rightarrow A_b = 75$ $\left\{ V = 75 \cdot 10 \rightarrow \boxed{V = 760} \right.$

Alternativa C

6. 

$A_b = xy$

$A_L = 2(x \cdot 2y) + 2(y \cdot 2y) \rightarrow A_L = 4xy + 4y^2$

$4x^2 = 2xy + (4xy + 4y^2) \rightarrow 4x^2 = 6xy + 4y^2 \rightarrow 4x^2 - 6xy - 4y^2 = 0$

$\Delta = (-6y)^2 - 4 \cdot 4 \cdot (-4y^2)$

$\Delta = 36y^2 + 64y^2$

$\Delta = 100y^2$

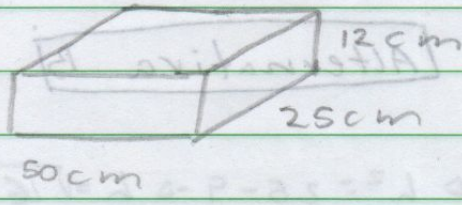
$x = \frac{6y \pm \sqrt{100y^2}}{2 \cdot 4} = \frac{6y \pm 10y}{8}$ $\left\{ \begin{array}{l} x' = \frac{16y}{8} = 2y \\ x'' = \frac{(-4y)}{8} \text{ não convém} \end{array} \right.$

$x = 2y = z$ $\qquad A_b = x \cdot \frac{x}{2} \rightarrow A_b = \frac{x^2}{2}$

$V = \frac{x^2}{2} \cdot x \rightarrow \boxed{V = \frac{x^3}{2}}$

Alternativa C

Tarefa Básica - Paralelepípedos e cubos

1. 

$V = 50 \cdot 25 \cdot 12$

$\boxed{V = 15000\ cm^3 \text{ ou } 0{,}015\ m^3}$

Alternativa A

2. $72 = 6a^2 \rightarrow a = \sqrt{12} \rightarrow a = 2\sqrt{3}\ m$

$D = \sqrt{3 \cdot (2\sqrt{3})^2} \rightarrow D = \sqrt{3 \cdot 12} \rightarrow D = \sqrt{36} \rightarrow \boxed{D = 6m}$

Alternativa B

3. $V = 5^3 \rightarrow$ **$V = 125\ cm^3$ ou $0,125\ L$**

Alternativa A

4. $V = 1^3 = 1\ m^3 \rightarrow 1 \cdot 1000 = 1000\ L$

$VF = 1000 - 1 = 999\ L$

$1\ m^3$ --- $1000\ L$

$1\ m^3 - x$ --- $999\ L$

$1000 - 1000x = 999 \rightarrow (-1000x = (-1) \rightarrow x = \frac{(-1)}{(-1000)}$

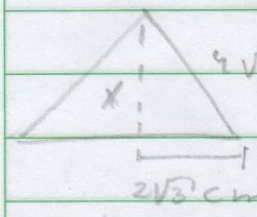
$x = 0,001\ m^3$

5. $V = abc$

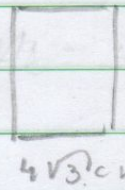
$V' = 2a \cdot 2b \cdot c \rightarrow V' = 4abc \rightarrow$ **$V' = 4V$**

Alternativa C

6. $V_q = (4\sqrt{3})^3 \rightarrow V_q = 64 \cdot 3 \cdot \sqrt{3} \rightarrow V_q = 192\sqrt{3}\ cm^3$



$x = \frac{4\sqrt{3} \cdot \sqrt{3}}{2} \rightarrow x = 2 \cdot 3 \rightarrow x = 6\ cm$



$Ab = \frac{4\sqrt{3} \cdot 6}{2} \rightarrow Ab = 12\sqrt{3}\ cm^2$

$192\sqrt{3} = 12\sqrt{3} \cdot h \rightarrow h = \frac{192\sqrt{3}}{12\sqrt{3}} \rightarrow h = 16\ cm$

$AL = 3 \cdot 4\sqrt{3} \cdot 16 \rightarrow AL = 192\sqrt{3}\ cm^2$

$A = 2 \cdot 12\sqrt{3} + 192\sqrt{3} \rightarrow$ **$A = 216\sqrt{3}\ cm^2$** **Alternativa D**