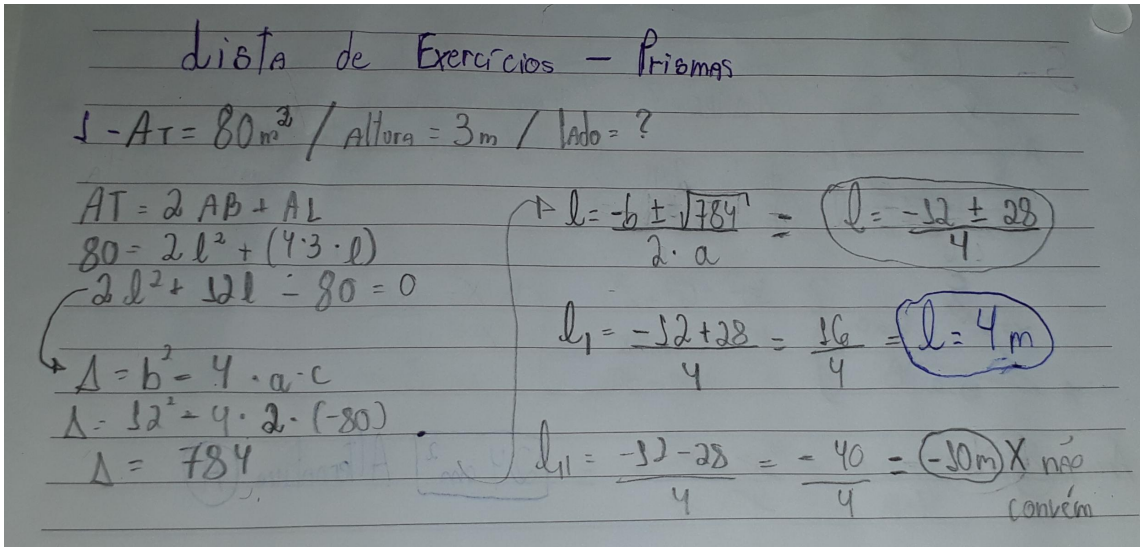
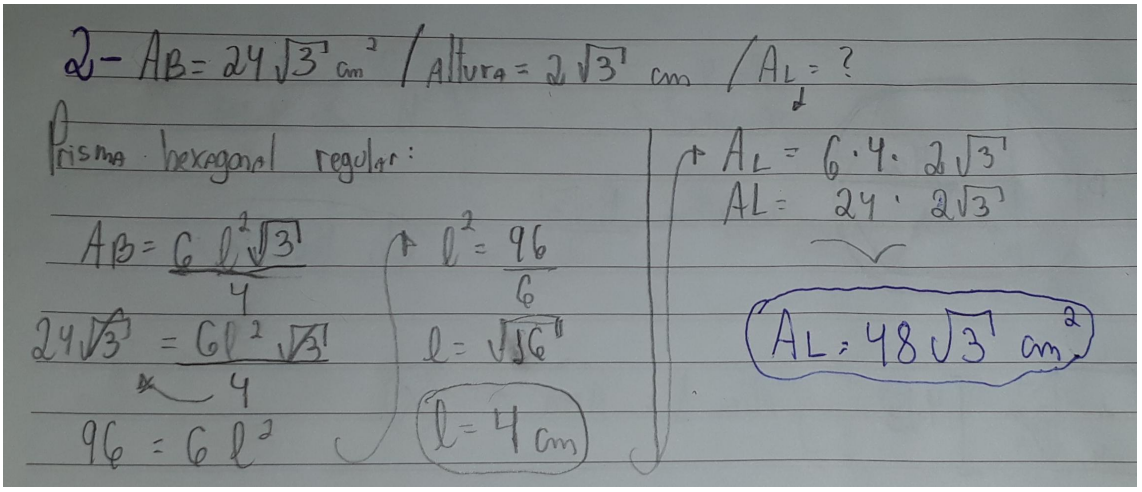
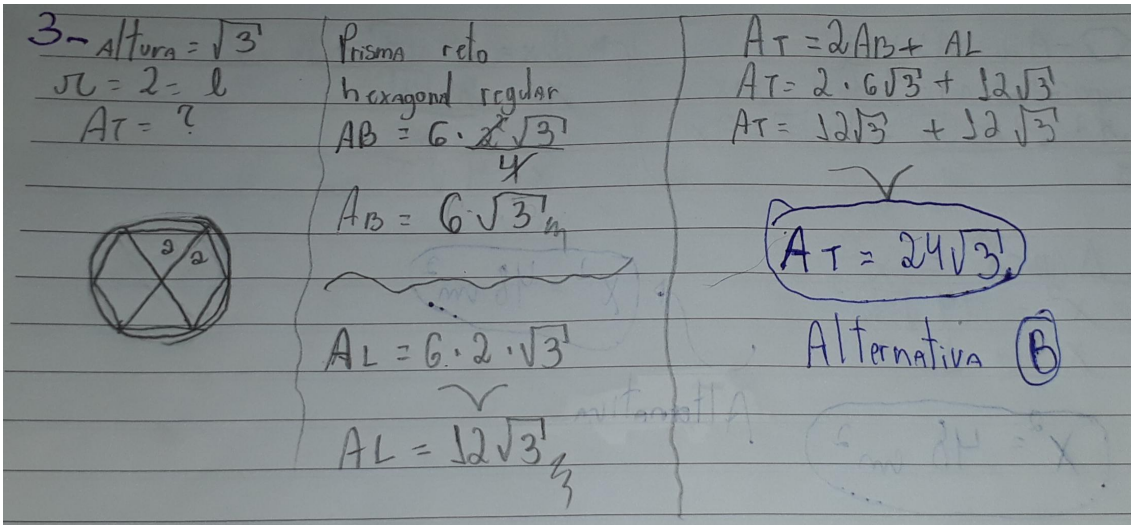
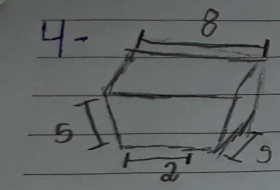
Giovanna Santana Pennisi - CTII 350

Lista de Exercícios - Aula 30

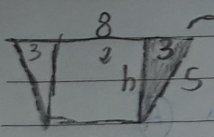


4- 


$B = 8$
$b = 2$
$V = ?$




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

$A_B = \frac{(2+8)\cdot 4}{2}$

$A_B = \frac{10 \cdot 4}{2}$

$A_B = 20$

$V = A_B \cdot 5$
$V = 20 \cdot 5$
$V = 100\ m^3$

Alternativa (D)

5- $V = Ab \cdot h$
$V = A\Delta \cdot 10$
$V = \frac{15 \cdot 10^5}{2} \cdot 10$

$V = 150 \cdot 5$
$V = 750\ cm^3$

Alternativa (C)

6- Altura: $z = 2y$ ; $A_T = 4x^2$ / Prisma quadrangular reto: $AB = x \cdot y$

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

$A_T = 2 \cdot AB + AL$
$4x^2 = 2xy + (4xy + 4y^2)$
$4x^2 = 6xy + 4y^2$
$4x^2 - 6xy - 4y^2 = 0$

$\Delta = (-6y)^2 - 4 \cdot 4 \cdot (-4y^2)$
$\Delta = 36y^2 + 64y^2$
$\Delta = 100y^2$

$x = \frac{-(-6y) \pm \sqrt{100y^2}}{2 \cdot 4}$

$x = \frac{6y \pm 10y}{8}$

$x_1 = \frac{6y + 10y}{8} = \frac{16y}{8} \Rightarrow (2y)$

$x_{II} = \frac{6y - 10y}{8} = \frac{-4y}{8}$ ✗ NÃO convém

$x = 2y$
$y = \frac{x}{2}$

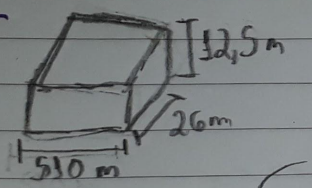
$AB = x \cdot \frac{x}{2}$
$AB = \frac{x^2}{2}$

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

Alternativa (C)

# Lista de Exercícios - Paralelepípedos e Cubos

1 -




Expessura = 0,5 cm
Comprimento = 51 - (2·0,5) = 51 - 1 = 50 m
Largura = 26 - (2·0,5) = 26 - 1 = 25 m
Altura = 12,5 - 0,5 = 12 m

↳ 50 x 25 x 12 cm
V = 50 · 25 · 12
V = 15000 cm³ → V = 0,015 m³

Alternativa (A)

2 - At = 72 m²
D = ?

72 = 6 a²
a² = 72/6
a = √12 → a = 2√3 m

D = √(3 · a²)
D = √(3 · (2√3)²)
D = √(3 · 12)
D = √36 → D = 6m

Alternativa (B)

3 - a = 50 cm → 50/100 = 0,5 m
V = ?

V = a³
V = 0,5³
V = 0,125 m³

V = 0,125 · 1000
V = 125 litros

Alternativa (A)

4 - Aresta = 1m

V = a³
V = 1³
V = 1 m

↳ 1 · 1000
1000 litros

1000 - 1
999 litros

1 m³ — 1000 ℓ
1 m³ - x — 999 ℓ

1000 - 1000 x = 999
-1000 x = 999 - 1000
(-1) · -1000 x = -1 · (-1)
1000 x = 1
x = 1/1000 → 0,001 m³

5- $V = a \cdot b \cdot c$

$V_1 = 2a \cdot 2b \cdot c \longrightarrow V_1 = 4abc$ Alternativa

→ Como $V_1 = 4abc$ e $V = abc$, temos que $V_1 = 4V$ (C)

6 - $l_{ABC} = 4\sqrt{3}$ cm — equilátero

$A_T = ?$

$h = ?$

$V = (4\sqrt{3})^3$

$V = 64 \cdot 3 \cdot \sqrt{3}$

$V = 192\sqrt{3}$ cm³

$h_\Delta = \frac{4\sqrt{3} \cdot \sqrt{3}}{2}$

$h_\Delta = 6$ cm

$A_B = \frac{4\sqrt{3} \cdot 6}{2}$

$A_B = 12\sqrt{3}$ cm²

$h_\square = \frac{192\sqrt{3}}{12\sqrt{3}}$

$h_\square = 16$ cm

$A_L = 3 \cdot 4\sqrt{3} \cdot 16$

$A_L = 192\sqrt{3}$ cm²

$A_T = 2A_B + A_L$

$A_T = 2 \cdot 12\sqrt{3} + 192\sqrt{3}$

$A_T = 24\sqrt{3} + 192\sqrt{3}$

$A_T = 216\sqrt{3}$ cm²

Alternativa (D)