

## Tarefa Básica

1-

$$\bullet \text{Área total: } 80 \text{ m}^2$$

$$\bullet \text{Altura} = 3 \text{ m}$$

$$2A_{\text{base}} = 2x$$

$$A_{\text{lateral}} = 4 \cdot 3x = 12x$$

$$A = 2A_{\text{base}} + A_{\text{lateral}}$$

$$80 = 2x^2 + 12x$$

$$2x^2 + 12x - 80 = 0$$

$$\Delta = 12^2 - 4 \cdot 2 \cdot (-80)$$

$$\Delta = 144 + 640$$

$$\Delta = 784$$

$$x = \frac{-12 \pm \sqrt{784}}{2 \cdot 2}$$

$$2 \cdot 2$$

$$x = \frac{-12 \pm 28}{4}$$

$$4$$

$$x' = \frac{-12 + 28}{4} = \frac{16}{4} = 4 \text{ m}$$

$$x' = \frac{-12 - 28}{4} = \frac{-40}{4} = -10 \text{ m}$$

2-

$$\bullet A_{\text{base}} = 24\sqrt{3} \text{ cm}^2$$

$$\bullet \text{Altura} = 2\sqrt{3}$$

6 retângulos

$$\text{base} \rightarrow 24\sqrt{3} = \frac{3l^2\sqrt{3}}{2}$$

$$2$$

$$48\sqrt{3} = 3l^2\sqrt{3}$$

$$48\sqrt{3} = l^2\sqrt{3}$$

$$3$$

$$16\sqrt{3} = l^2\sqrt{3}$$

$$l^2 = 16\sqrt{3}$$

$$\sqrt{3}$$

$$l = \sqrt{16}$$

$$l = 4$$

$$A_{\text{lateral}} = 6 \cdot l \cdot h$$

$$A_{\text{lateral}} = 6 \cdot 4 \cdot 2\sqrt{3}$$

$$A_{\text{lateral}} = 48\sqrt{3} \text{ cm}^2$$



$$3 - h = \sqrt{3}$$

$$l = R = 2$$

$$l = 2$$

$$A_{base} = \frac{3l^2\sqrt{3}}{2} \Rightarrow \frac{3 \cdot 2^2\sqrt{3}}{2} \Rightarrow \frac{3 \cdot 4\sqrt{3}}{2} \Rightarrow 12\sqrt{3}$$

$$A_{base} = 6\sqrt{3}$$

$$A_{lateral} = 6 \cdot 2\sqrt{3} \Rightarrow A_{lateral} = 12\sqrt{3}$$

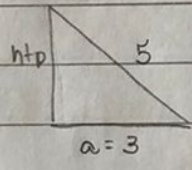
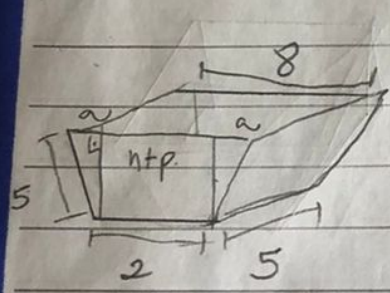
$$A_{total} = 2A_{base} + A_{lateral}$$

$$A_{total} = 2 \cdot 6\sqrt{3} + 12\sqrt{3}$$

$$A_{total} = 12\sqrt{3} + 12\sqrt{3}$$

$$A_{total} = 24\sqrt{3}$$

4-



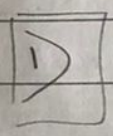
$$5^2 = 3^2 + h+p^2$$

$$25 = 9 + h+p^2$$

$$25 - 9 = h+p^2$$

$$h+p^2 = 16$$

$$h+p = \sqrt{16} = 4$$



$$B = 8m \quad h_{prisma} = 5m$$

$$b = 2m \quad h+p = ?$$

$$A_{base} = \frac{(B+b) \cdot h+p}{2}$$

$$V = A_{base} \cdot h_{prisma}$$

$$V = 20.5$$

$$a + 2 + a = 8$$

$$2a = 8 - 2$$

$$2a = 6$$

$$a = 3$$

$$2$$

$$\frac{(8+2) \cdot 4}{2} \Rightarrow 10 \cdot 2$$

$$A_{base} = 20$$

$$V = 100m^2$$

$$a = 3$$



5

$$b_{tr} = 15$$

$$h_{tr} = 10$$

$$h_{prisma} = 10$$

$$A_{base} = \frac{10 \cdot 15}{2} = \frac{150}{2} \Rightarrow A_{base} = 75 \text{ m}^2$$

$$V = A_{base} \cdot h_{prisma}$$

$$V = 75 \cdot 10$$

$$V = 750 \text{ m}^3$$

6 - dimensões da base são  $x$  e  $y$

altura igual a  $z$

area total igual a  $4x^2$

$$z = 2y$$

$$A_{total} = 2ab + 2ac + 2bc$$

$$4x^2 = 2xy + 2xz + 2yz$$

$$2x^2 = xy + xz + yz$$

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

$$2x^2 = 3xy + 2y^2$$

$$y = \frac{-3x \pm \sqrt{25x^2}}{2 \cdot 2}$$

$$y = \frac{-3x \pm 5x}{4}$$

$$y = \frac{-3x - 5x}{4} = \frac{-8x}{4} = -2x$$

$$y' = \frac{-3 - 5x}{4} = \frac{-8}{4} = -2$$

$$z = 2 \cdot \frac{x}{2}$$

$$z = x$$

$$V = x \cdot y \cdot z$$

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

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

$$2x^2 = 3xy + 2y^2$$

$$\Delta = (3x)^2 - 4 \cdot 2 \cdot (-2x^2)$$

$$\Delta = 9x^2 + 16x^2$$

$$\Delta = 25x^2$$

C



$$1 - C = 51 \text{ cm}$$

$$h = 12,5 \text{ cm}$$

$$\text{espessura} = 0,5 \text{ cm}$$

$$\text{largura} = 26 \text{ cm}$$

$$C_{\text{int}} = 51 - (2 \cdot 0,5)$$

$$C_{\text{int}} = 51 - 1$$

$$C_{\text{int}} = 50 \text{ cm}$$

$$h = 12,5 - 0,5$$

$$h = 12 \text{ cm}$$

$$\text{larg}_{\text{int}} = 26 - (2 \cdot 0,5)$$

$$\text{larg}_{\text{int}} = 26 - 1$$

$$\text{larg}_{\text{int}} = 25 \text{ cm}$$

$$\text{cm} - \text{cm}^3$$

$$V = \frac{15000}{1000000} = 0,015 \text{ m}^3$$

$$V = C_{\text{int}} \cdot \text{larg}_{\text{int}} \cdot h$$

$$V = 50 \cdot 25 \cdot 12$$

$$V = 15000 \text{ cm}^3$$

$$2 - A_{\text{total}} = 72 \text{ m}^2$$

$$3 - A = 50 \text{ cm} \xrightarrow{\cdot 100} a = 0,5$$

$$72 = 6a^2$$

$$72 = a^2$$

$$6$$

$$a^2 = 12$$

$$a = \sqrt{12}$$

$$a = \sqrt{2^2 \cdot 3}$$

$$a = 2\sqrt{3}$$

$$12 \mid 2$$

$$6 \mid 2$$

$$3 \mid 3$$

$$1 \mid 3$$

$$4$$

$$V = a^3$$

$$V = 0,5^3$$

$$V = 0,125 \text{ m}^3$$

Volume em litros

$$V1 = 0,125 \cdot 1000$$

$$V1 = 125 \text{ L}$$

$$d = a\sqrt{3}$$

$$d = 2\sqrt{3} \cdot \sqrt{3} = 2 \cdot 3$$

$$d = 6$$



$$4 - a = 1m$$

$$V = a^3$$

$$V = 1m^3$$

Volume em litros

$$Vl = 1 \cdot 1000$$

$$Vl = 1000L$$

se retirar 1L

$$Vlr = 1000 - 1$$

$$Vlr = 999L$$

$$1m = 1000l$$

$$(1m - x) = 999l$$

$$999L \cdot 1m = 1000L(1m - x)$$

$$999 = 1000 - 1000x$$

$$-1000x = 999 - 1000$$

$$-1000x = -1 \cdot x(-1)$$

$$1000x = 1$$

$$x = \frac{1}{1000}$$

$$x = 0.001m$$

5- Se supormos que o paralelepípedo tem medidas igual a 2cm, 4cm e 5cm  
então:

$$V = 2 \cdot 4 \cdot 5$$

$$V = 40cm^3$$

$$V = 2(4 \cdot 2)(5 \cdot 2)$$

$$V = 2 \cdot 8 \cdot 10$$

$$V = 160cm^3$$

com isso

$$\frac{160cm^3}{40cm^3} - 4 \rightarrow 4V$$

$$C$$



$$6. \cdot l = 4\sqrt{3}$$

$$\cdot a = 4\sqrt{3}$$

$$\cdot \text{Volume } P = \text{Vcubo}$$

$$h = ?$$

$$\text{Volume } P = \text{Vcubo}$$

$$\text{Abase, } h = a^3$$

$$\frac{l^2 \sqrt{3}}{4} = a^3$$

$$\frac{(4\sqrt{3})^2 \sqrt{3} \cdot h}{4} = (4\sqrt{3})^3$$

$$\frac{(4\sqrt{3})^2 \sqrt{3} \cdot h}{4} = 4\sqrt{3} \cdot 4\sqrt{3}$$

$$\frac{h}{4} = 4$$

$$h = 4 \cdot 4$$

$$h = 16$$