

# Tarefa Básica - Geometria Espacial

## • PRISMAS

01)  $AREA DAS BASES = 2x^2$

$AREA DAS LATERAIS = 43x = 12x$

$2x^2, 12x = 80$

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

$x = \frac{-12 \pm \sqrt{784}}{4}$

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

b. 12  $\Delta = 144 + 640$

$x_1 = \frac{-12 + 28}{4} = 10$

c. -10  $\Delta = 784$

$x_2 = \frac{-12 - 28}{4} = -10$

$x_3 = \frac{-12 + 28}{4} = 4$

R: 4m //

02)  $A_{lateral} = 6 \cdot 2\sqrt{3}$

$A_{lateral} = 12\sqrt{3} \cdot 4 \rightarrow$  no de lados

$A_{lateral} = 48\sqrt{3}$

R:  $48\sqrt{3} \text{ cm}^2$

03)  $r =$  Lado do hexágono = 2,

Hexágono = 6 lados

$A_{hex} = \frac{6 \cdot b^2 \sqrt{3}}{4}$

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

$A_{lateral} = 12\sqrt{3}$

$A_{hex} = \frac{6 \cdot 2^2 \sqrt{3}}{4}$

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

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

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

R: 0 //

$A_{hex} = 5\sqrt{3}$

04) BASE = TRAPEZÓ

$$A_{\text{trap}} = \frac{(B+b) \cdot h}{2}$$

$$A = \frac{(7+2) \cdot 5}{2}$$

$$A = \frac{10 \cdot 5}{2}$$

$$A = 25 \rightarrow 1 \text{ lado}$$

Volume

$$24,4 \text{ toneladas} = 100 \text{ m}^3$$

R: D //

05)  $A = \frac{b \cdot h}{2}$

$$V = 75 \cdot 10$$

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

$$A = \frac{10 \cdot 15}{2}$$

$$A = 75 \text{ cm}^2$$

R: C //

## • PARALELEPÍPEDOS E CUBOS

01) MEDIDA INTERNA = MEDIDA - ESPESURA

$$51 - 20,5 = 30 \text{ cm comprimento}$$

$$26 - 20,5 = 25 \text{ cm LARGURA}$$

$$12,5 - 0,5 = 12 \text{ cm ALTURA}$$

$$30 \text{ cm}^3 \rightarrow 0,3 \text{ m}^3$$

$$25 \text{ cm}^3 \rightarrow 0,25 \text{ m}^3$$

$$12 \text{ cm}^3 \rightarrow 0,12 \text{ m}^3$$

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

$$V = 0,3 \cdot 0,25 \cdot 0,12$$

$$V = 0,009$$

R: A //

02)  $A = 72 \text{ m}^2$

ÁREA DO QUADRADO =  $6x^2$

$A = 6x^2$

$72 = 6x^2$

$x^2 = 12$

$6$

$x^2 = 12$

$x = \sqrt{12}$

$x = 2\sqrt{3}$

$12 \mid 2$

$6 \mid 2$

$3 \mid 3$

$1$

DIAGONAL

$d = x\sqrt{3}$

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

$d = 2 \cdot 3$

$d = 6$

R: B //

03)  $V = a^3$

$V = 50^3$

$V = 125\,000 \text{ cm}^3$

$1 \text{ cm}^3 = 0,001$

$125\,000 \text{ cm}^3 = 125 \text{ L}$

R: A //

05) VOLUME = V

dobro =  $2x$

retângulo = 4 lados

dobro para um de seis lados.

$V \rightarrow 4V$

R: C //

06) VOLUME DO QUADRADO

$V = l^3$

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

$V = 64 \cdot 3$

$V = 192\sqrt{3}$

VOLUME DO PRISMA

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

$192\sqrt{3} = \frac{l \cdot (4\sqrt{3}\sqrt{3})^2\sqrt{3}}{4}$

$4 \cdot 192\sqrt{3} = l \cdot 16 \cdot 3\sqrt{3}$

$4 \cdot 192\sqrt{3} = l \cdot 48\sqrt{3}$

$l = \frac{4 \cdot 192\sqrt{3}}{48\sqrt{3}}$

$l = 16$

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AREA TOTAL DO PRISMA:

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

$$A = 2 \cdot \frac{(4\sqrt{3})^2 \cdot \sqrt{3}}{4} + 3 \cdot 16 \cdot 4\sqrt{3}$$

$$A = 2 \cdot \frac{(16 \cdot 3) \cdot \sqrt{3}}{4} + 192\sqrt{3}$$

$$A = 2 \cdot 48\sqrt{3} + 192\sqrt{3}$$

$$A = 212\sqrt{3} + 192\sqrt{3}$$

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

$$A = 216\sqrt{3}$$

R.D.