

Fórmulas de Geometria Espacial

Prismas

$$A_{B_{\Delta}} = \frac{\ell^2 \sqrt{3}}{4}$$

$$A_{L_{\Delta}} = 3\ell \cdot h$$

$$A_{B_{\square}} = \ell^2$$

$$A_{L_{\square}} = 4\ell \cdot h$$

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

$$A_{L_H} = 6\ell \cdot h$$

$$A_T = A_L + 2 \cdot A_B$$

$$V = A_B \cdot h$$

Paralelepípedo

$$A_B = a \cdot b$$

$$A_F = \ell^2$$

$$A_T = 2ab + 2bc + 2ac$$

$$A_L = 4\ell^2$$

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

$$A_T = 6\ell^2$$

$$D = \sqrt{a^2 + b^2 + c^2}$$

$$V = \ell^3$$

$$d_{\text{face}} = \ell\sqrt{2} \quad D_{\text{cubo}} = \ell\sqrt{3}$$

Cone

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

$$A_B = \pi r^2$$

$$A_L = \pi r g$$

$$A_S = r h$$

$$A_T = \pi r^2 + \pi r g$$

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

$$\text{Equilátero} \rightarrow g = 2r$$

Pirâmides

$$A_L = p \cdot ap$$

$$A_T = A_L + A_B$$

$$V = \frac{A_B \cdot h}{3}$$

$$ap^2 = h^2 + K^2$$

$$a^2 = ap^2 + \frac{\ell^2}{2}$$

$$a^2 = h^2 + R^2$$

Tetraedro

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

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

$$h = \frac{a\sqrt{6}}{3}$$

$$V = \frac{a^3 \sqrt{2}}{12}$$

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

Obs: K = h do

triângulo equilátero

Cilindro

$$V = A_B \cdot h = \pi r^2 h$$

$$A_L = 2\pi r h$$

$$A_T = 2\pi r^2 + 2\pi r h$$

$$A_S = 2rh$$

Equilátero $\rightarrow h = 2r$

$$A_B = \pi r^2$$