

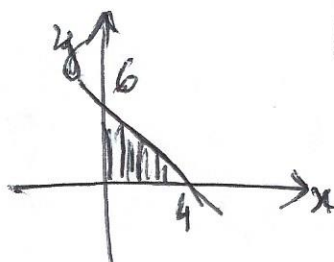
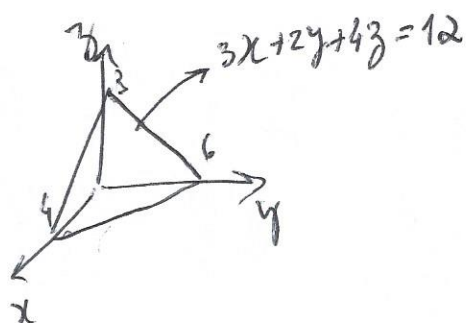
Volume em integrais duplos

$$V = \iint_R (\text{superf. limite super.} - \text{superf. limite inf.}) dA$$

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29) Volume da pirâmide?

33)



$$[(4,0) = (0,6)]$$

$$y = mx + b$$

$$\begin{cases} 0 = 4m + b \\ 6 = 0 + b \end{cases} \Rightarrow$$

$$\Leftrightarrow \begin{cases} 4m = -6 \\ b = 6 \end{cases} \Rightarrow m = -\frac{6}{4} = -\frac{3}{2}$$

$$V = \int_0^4 \int_0^{-\frac{3}{2}x+6} \left(\frac{12-3x-2y}{4} - 0 \right) dy dx = \int_0^4 \left(\frac{12y - 3xy - y^2}{4} \right) \Big|_0^{-\frac{3}{2}x+6} dx$$

$$= \int_0^4 \frac{12(-\frac{3}{2}x+6) - 3x(-\frac{3}{2}x+6) - (-\frac{3}{2}x+6)^2}{4} dx = 12 \quad \text{Acabar em casa}$$

38) O volume do sólido limitado sup. por $z = x^2 + y^2$ e limitado inf. pelo plano xy .

42) por $x^2 + (y-1)^2 = 1$ e inf. pelo plano xy .

$$V = \int_{-1}^1 \int_{1-\sqrt{1-x^2}}^{1+\sqrt{1-x^2}} (1-x^2-y^2 - 0) dy dx$$

