Lucas Orestes Fabris

Resolução Prova   Cálculo 2

1- $\int_0^3 \int_{-1}^0 \frac{1}{2}x^2 + 2yx + 4zx \, dy \, dz$

$\int_0^3 \frac{1}{2}x^2 - x + 4xz$

$\frac{3}{2}x^2 + 15x \parallel$

2- $\int_{-2}^2 \sqrt{1 + (7)^2}$

$\int_{-2}^2 \sqrt{50} \, dx$

$\sqrt{50} \int_{-2}^2 x^0 \, dx$

$\sqrt{50} \cdot x$

$f(2) = \sqrt{50} \cdot 2 = 2\sqrt{50}$ $> \frac{2\sqrt{50} - 2\sqrt{50}}{4\sqrt{50} = 4\sqrt{2} \cdot 8^2}$

$f(-2) = \sqrt{50} \cdot (-2) = -2\sqrt{50}$ $\frac{4 \cdot 5 = \sqrt{2}}{20\sqrt{2}}$ u.c

$3. \displaystyle\int_{4}^{2} x+5 \cdot \sqrt{1+1}\ dx$
2π

$2\pi \cdot 5\sqrt{2} \displaystyle\int_{1}^{2} x\ dx$

$2\pi \cdot 5\sqrt{2} \cdot \dfrac{x^2}{2}$

$10\sqrt{2}\pi \cdot \dfrac{x^2}{2}$

$5\sqrt{2}\pi \cdot x^2$

$\ell(1) = 5\sqrt{2}\pi (1)^2 = 5\sqrt{2}\pi$ $\quad\rightarrow\quad 20\sqrt{2}\pi \cdot 5\sqrt{2}\pi$

$\ell(2) = 5\sqrt{2}\pi \cdot (2)^2 = 20\sqrt{2}\pi$ $\qquad 15\sqrt{2}\pi \quad //$

$4. \displaystyle\int_{0}^{4} \pi \cdot (x^2 +4x -5)^2\ dx$

$\pi \cdot \displaystyle\int (x^2 +4x -5)^2\ dx$

$\dfrac{3124\pi}{5} \quad //$

unesc

$5, \dfrac{dz}{dx} = 2xy^3 - 8$

$\dfrac{dz}{dx} = 3x^2y^2 - 10x$

$8x = 0$

$\dfrac{y^2 = 2y}{6xy^3} = 3x^2y^6 - 2^2 + 4x - 6\phi$

$5y^2 = 10y$

$b, \dfrac{dz}{dx} = \dfrac{-3^2 xy^2}{(3x^2 - 14y^2)}$

$\dfrac{dz}{dx} = \dfrac{4x^2 (-3x^2 - 4y^3)}{(-3x - 4x^2)^2}$

$\boxed{-12x^4 - 16x^2y^2}$

$b, \dfrac{dz}{dx} = 2xy^3 - 8$

$\dfrac{dz}{dx} = 3x^2y^2 - 10y$

$8x = 0$

$2x^2 y^3 = 3x^2 y^2 - 3x^2 y^6 - 6x$

$5x^2 - 10y$

$B, \dfrac{dz}{dx} = \dfrac{32xy^3}{(-3x^2 + 4y^2)^2} \qquad -12x^2 - 16x^2y^2$

$\dfrac{11}{11} = \dfrac{4x^2 (-3x^2 - 4y^2)}{(-3x^2 + 4x^2)^2}$