S · T · Q · Q · S · S · D
L M M J V S D

Calculo

a - $f(x,y) = y^4 + 5xy^3$

$\frac{\partial f}{\partial x} = 5y^3$

$\frac{\partial f}{\partial y} = 4y^3 + 3(5x)y^2 = 4y^3 + 15xy^2$

b - $f(x,y) = x^2y - 3y^4$

$\frac{\partial f}{\partial x} = 2xy$

$\frac{\partial f}{\partial y} = x^2 - 12y^3$

c - $z = \ln(x + t^2)$

$\frac{\partial z}{\partial x} = \frac{1}{x+t^2} \cdot \frac{d}{dx} = \frac{1}{x+t^2} \cdot 1 = \frac{1}{x+t^2}$

$\frac{\partial z}{\partial y} = \frac{1}{x+t^2} \cdot \frac{d}{dx}(x+t^2) = \frac{1}{x+t^2} \cdot 2t = \frac{2t}{x+t^2}$

$d: z = x \cdot \sin(xy)$

$\frac{\partial z}{\partial x} = \frac{d}{dx}(x)\,\text{sen}(xy) + x \cdot \frac{d}{dx}(\text{sen}\ xy)$

$\text{sen}(xy) + xy \cdot \cos(xy) =$

$\frac{\partial z}{\partial y} = x \cdot x \cdot \cos(xy) = x^2 \cos(xy) =$