The Gradient Vector

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Def

The gradient of a function f:

$$\nabla f(x,y) = [f_x, f_y]$$

$$\nabla f(x,y,z) = [f_x, f_y, f_z]$$

Ex: Find ∇f

a) $f = x^2 + xy^3$

$\nabla f = [2x+y^3, 3xy^2]$

b) $f = xy + yz^4$

$\nabla f = [y, x+z^4, 4yz^3]$