

$$7: f(x, y) = 3y^2 - 2x^3 \quad f_x = -6x^2 \quad f_y = 6y$$

$$f_x = -6x^2 = 0 \quad x=0 \quad f_y = 6y = 0 \quad y=0$$

$f(0,0)$ es el punto crítico

$$8: f(x, y) = 2x^2 - 2xy + y^2 \quad R = \{(x, y) : 0 \leq x \leq 3, 0 \leq y \leq 2\}$$

$$f_x = 4x - 2y \quad f_y = 2y - 2x$$

$$f_x = 4x - 2y = 0 \quad f_y = 2y - 2x = 0 \quad \text{Sob } x=0 \quad y=0 \quad \text{cumple}$$

$$f(0,0) = 0$$

$$1) f(0, y) = y^2$$

$$2) f(3, y) = 2(3)^2 - 2(3)y + y^2 = 18 - 6y + y^2$$

$$3) f(x, 0) = 2x^2$$

$$4) f(x, 2) = 2x^2 - 2(2)x + 2^2 = 2x^2 - 4x + 4$$

$$1) \text{ minimo: } f(0,0) = 0$$

$$\text{maximo: } f(0,2) = 4$$

2)

$$\text{minimo: } f(3,2) = 10$$

$$\text{maximo: } f(3,0) = 18$$

$$3) \text{ minimo: } f(0,0) = 0$$

$$\text{maximo: } f(3,0) = 18$$

4)

$$\text{minimo: } f(1,2) = 2$$

$$\text{maximo: } f(0,2) = 4$$

Absolute minimum: $f(0,0) = 0$

Absolute maximum: $f(3,0) = 18$