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

- $f_x(x,y) = 2x + 4y^2 - 4y$
  $x = 2(y - y^2)$
  $(\frac{1}{2}, \frac{1}{2})$
- $f_y(x,y) = 8y - 4x = 4(2y - x)$
  $y = \frac{x}{2}$

Ptos criticos: $\{(x,y) \in \mathbb{R}^2 : x = 2y\}$
$H_f(x, \frac{x}{2}) = \begin{vmatrix} 2 & 8y-4 \\ 8y-4 & 8 \end{vmatrix} = 16 - 16(x-1)^2 = 16(1 - (x^2 - 2x + 1)) =$
$16(-x^2 + 2x) = 16(x(-x+2)) \Rightarrow$
$x = 0 \vee x = 2$
$x = -1 \Rightarrow < 0$ pto silla
$x = 1 \Rightarrow > 0$ minimo
$x = 3 \Rightarrow < 0$ pto silla