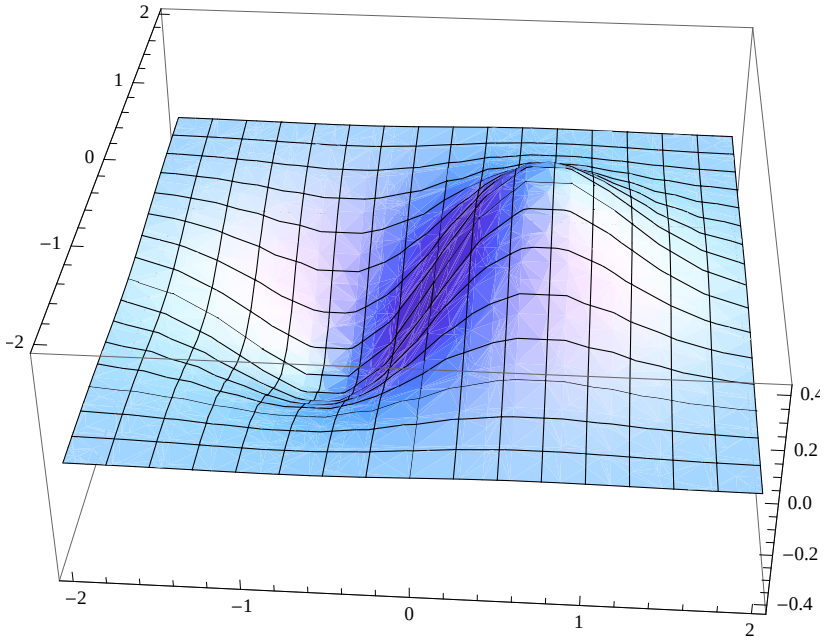
Busqueda unidimensional en N dimensiones

```
Clear[Grafica, f]
f[{x_, y_}]:=xExp[−x^2 − y^2]
Grafica[f_, r_, s_, max_]:=Block[{g, d, α},
g:=D[f[{x, y}], {{x, y}}]/.{x → r, y → s};
d = g/Norm[g];
Print["f = ", f[{x, y}]];
Print["g = " + D[f[{x, y}], {{x, y}}]];
Print["d = ", d];
Print["Φ(α) = ", f[{r, s} − 0.1α]];
Plot[f[{r, s} − di], {i, 0, max}]
]
Plot3D[f[{x, y}], {x, −2, 2}, {y, −2, 2}]
```



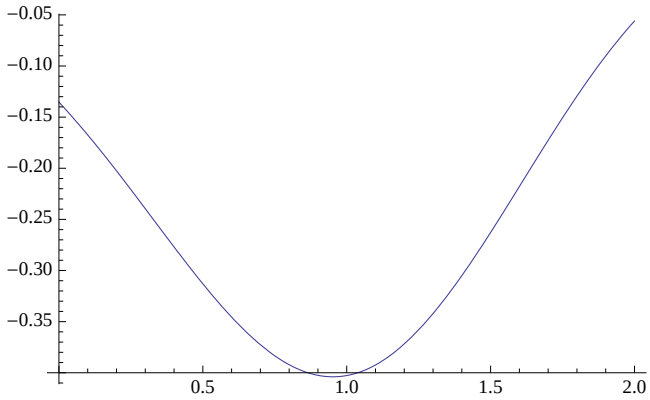

```
Grafica[f, −1, −1, 2]
```

f = $e^{-x^2-y^2}x$

$\left\{\text{g} = +e^{-x^2-y^2} - 2e^{-x^2-y^2}x^2, \text{g} = -2e^{-x^2-y^2}xy\right\}$

d = $\left\{-\frac{1}{\sqrt{5}}, -\frac{2}{\sqrt{5}}\right\}$

$\Phi(\alpha) = e^{-2(-1-0.1\alpha)^2}(-1 - 0.1\alpha)$


−0.05
−0.10
−0.15
−0.20
−0.25
−0.30
−0.35
0.5
1.0
1.5
2.0