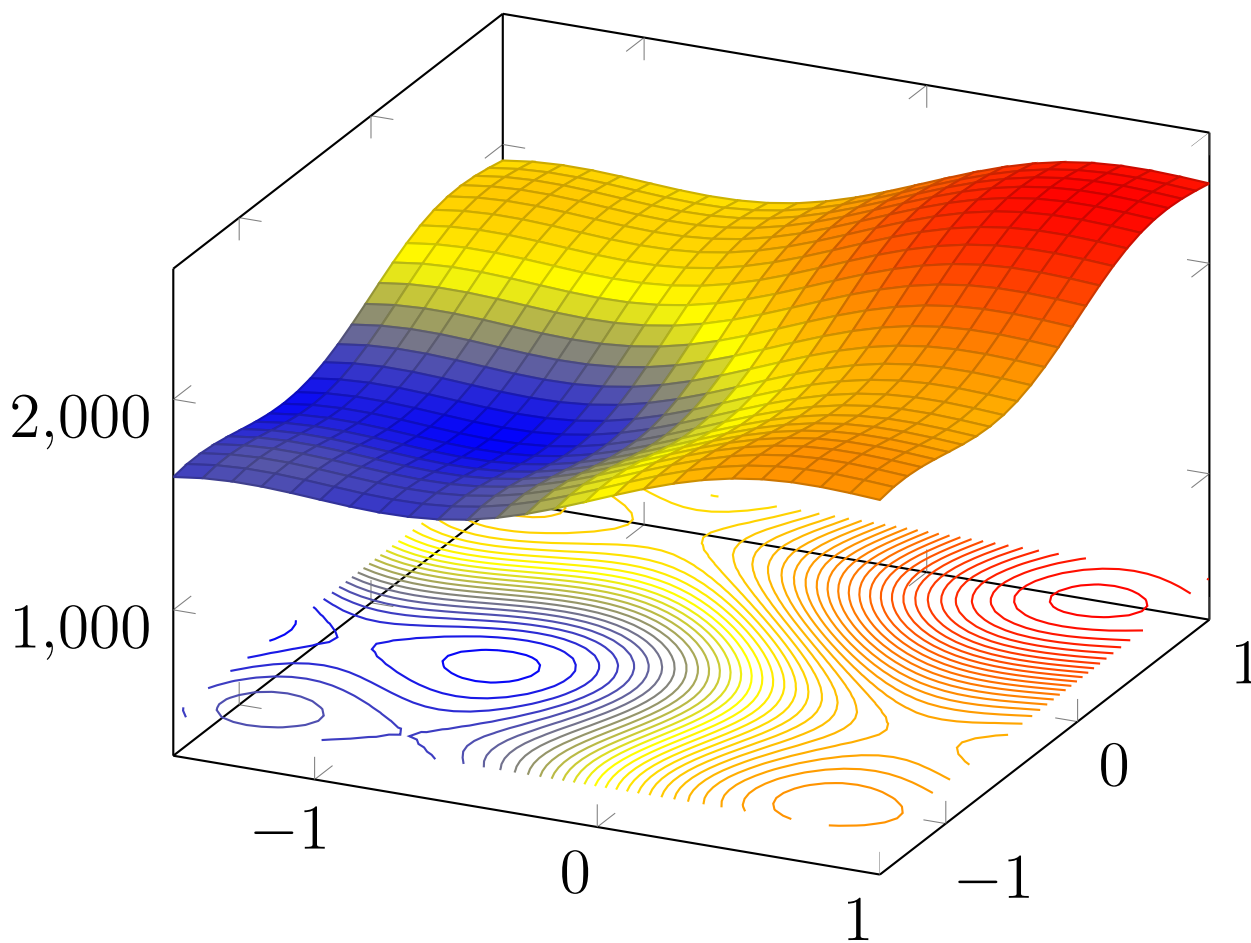
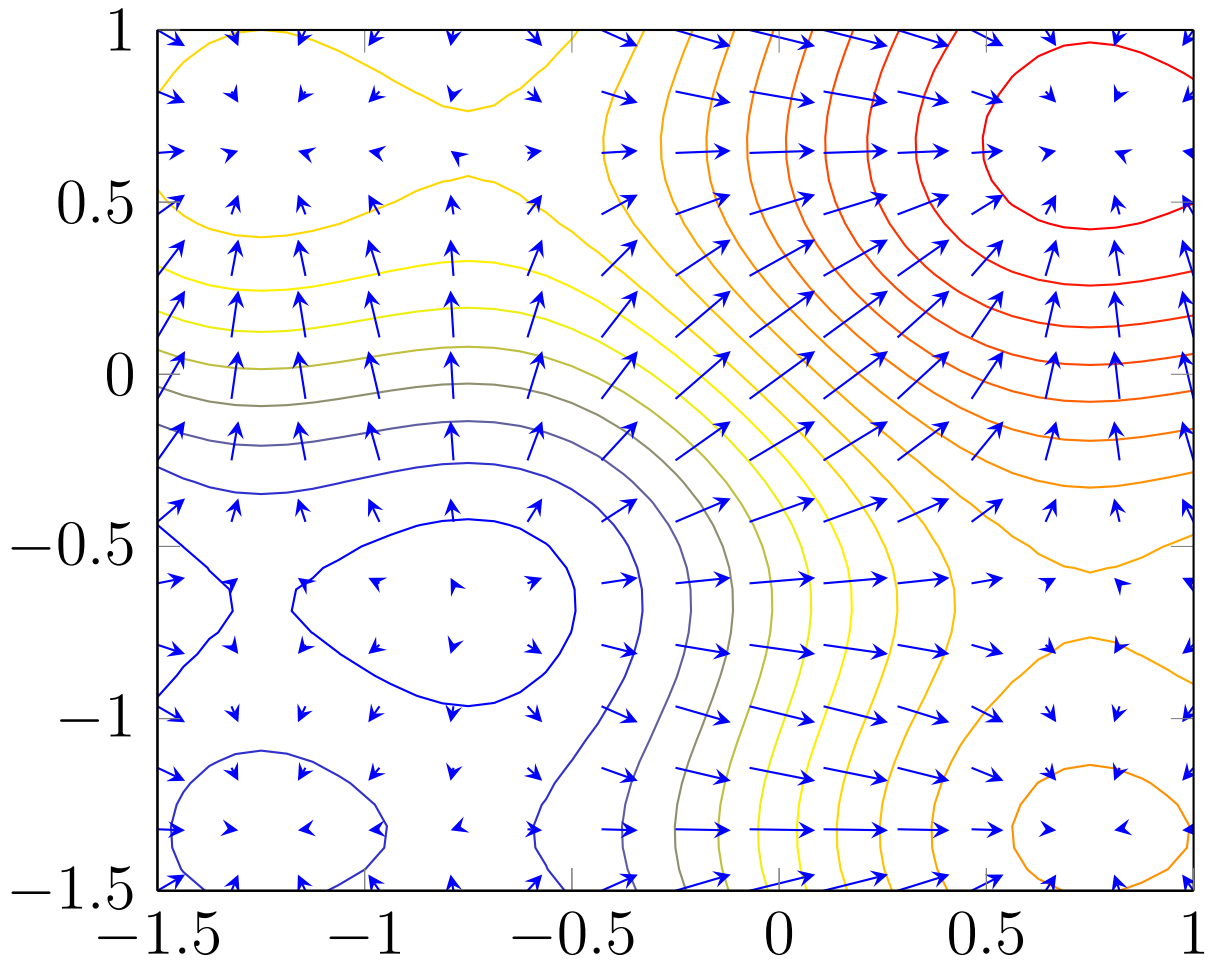


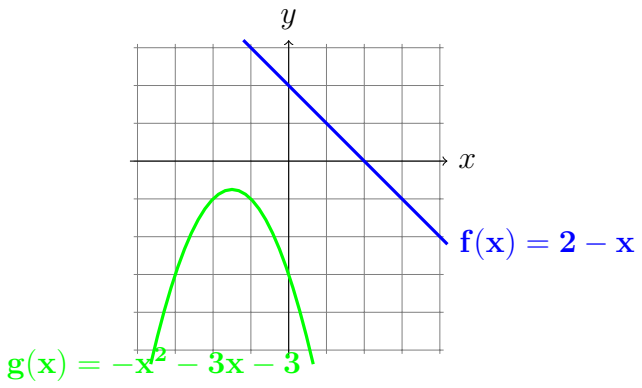
Fiche 4

$$2000 + 100 \left(\frac{\pi}{\sqrt{2}}x + \frac{\pi}{2}y + \sin(\pi x) + \sin(\pi y) \right)$$

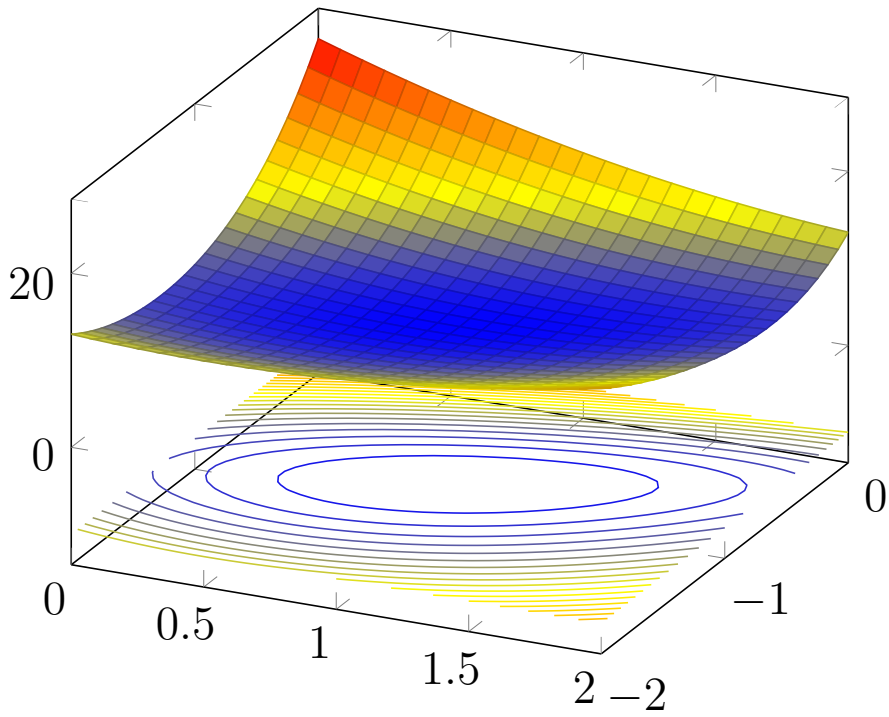


courbes de niveau et gradient

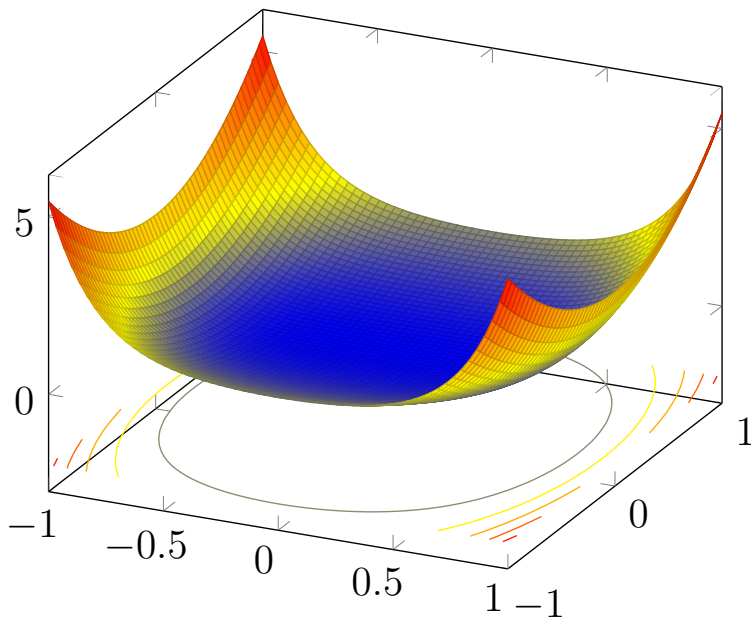




$$20x_2^2 - 8x_1x_2 + 2x_1^2 + x_2^4 + 25 + 6x_2^3 - 2x_1x_2^2 + 30x_2 - 10x_1$$



$$f(x, y) = e^{y^2} (x^4 + y^2)$$



gradient de $e^{y^2} (x^4 + y^2)$

