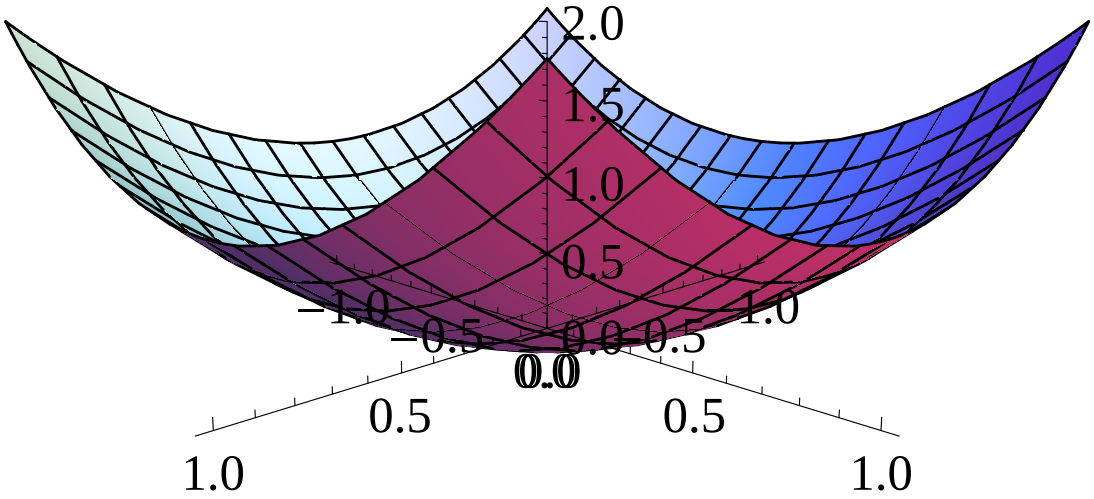
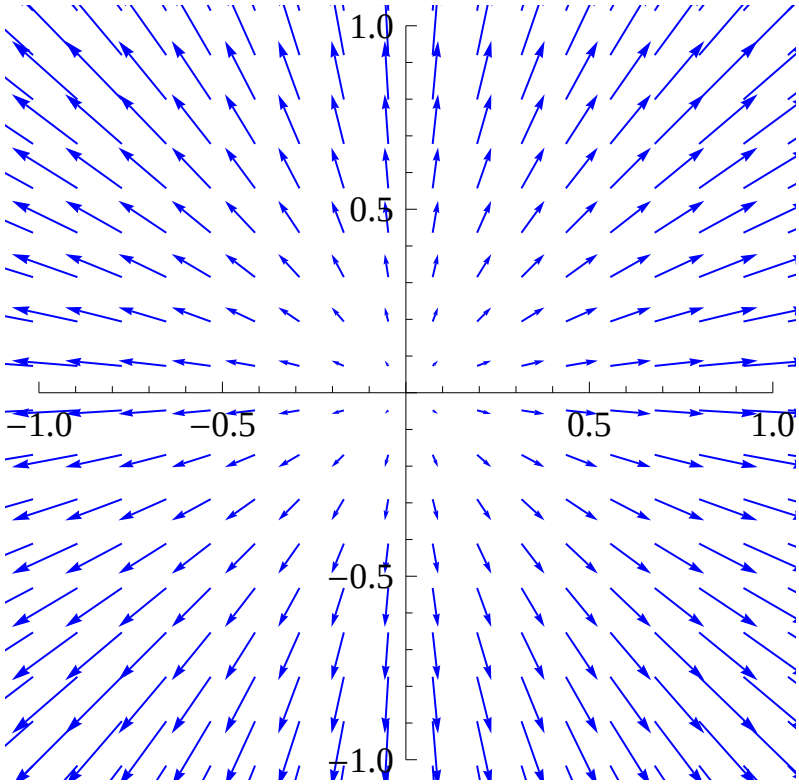
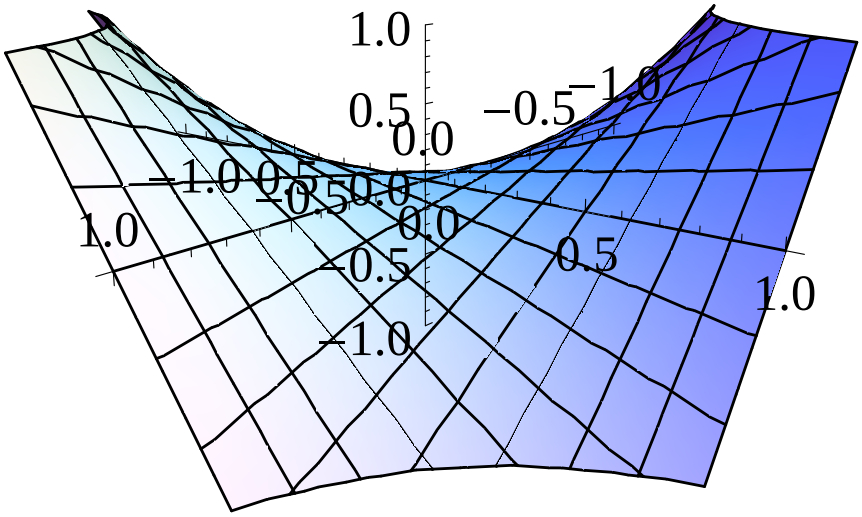
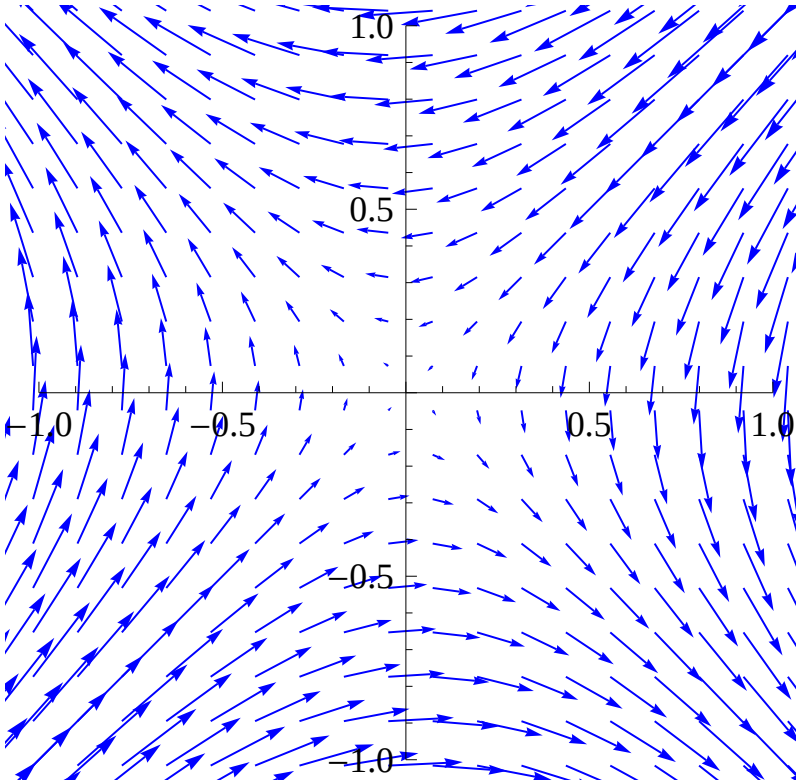
$$f : \mathbb{R}^2 \to \mathbb{R}, \quad f(x, y) = x^2 + y^2$$



$$f'(x, y) = (2x, 2y)$$



$$f\colon \mathbb{R}^2 \to \mathbb{R}, \quad f(x,y) = -3xy$$



$$f'(x,y) = (-3y, -3x)$$