Extrémy funkcí více proměnných

Vyšetřete extrémy funkcí.

$$F(x,y) = \sin x \cos y \tag{1}$$
$$F(x,y) = \cosh x \sin y \tag{2}$$
$$F(x,y) = x^3 - 9x^2 + 15x - y^2 + 2y \tag{3}$$
$$F(x,y) = y^3 + \frac{3}{2}y^2 - 18y + x - x^2 \tag{4}$$
$$F(x,y) = xy + x^2 + y^2 - 3x - 4y \tag{5}$$
$$F(x,y) = -x^2 - 2y^2 + 2xy - x - 2y \tag{6}$$
$$F(x,y,z) = x^2 + y^2 - z^2 + xy - yz + xz \tag{7}$$
$$F(x,y,z) = x^2 + y^2 + z^2 + 2xy - 2yz - 2xz \tag{8}$$
$$F(x,y) = (2x + y)\exp(x - y) \tag{9}$$
$$F(x,y) = (2 + x - y)\exp(-x^2 - y^2) \tag{10}$$
$$F(x,y) = (x + y)\exp(x^2 + 2y^2) \tag{11}$$