

## PŘÍKLADY 2 - VÁZANÉ EXTRÉMY

Nalezněte maximum a minimum funkce  $f$  na množině  $M$ .

$$f(x, y) = x + 2y, \quad M = \{(x^2 + y^2)^2 = 2xy\} \quad (1)$$

$$f(x, y) = 3x - 2y, \quad M = \{(x^2 + y^2)^2 = x^2 - y^2\} \quad (2)$$

$$f(x, y) = 2x + y^2, \quad M = \{xy = 1\} \cap \{x > 0\} \quad (3)$$

$$f(x, y) = 2y + x^2, \quad M = \{x^2y = 1\} \cap \{x > 0\} \quad (4)$$

$$f(x, y) = x^2 + xy + y^2, \quad M = \{x^2 + 4y^2 = 4\} \quad (5)$$

$$f(x, y) = x - y, \quad M = \{x^2 + y^2 + z^2 = 1\} \cap \{x + y + z = 1\} \quad (6)$$

$$f(x, y) = x + y, \quad M = \{x^2 + y^2 + z^2 = 1\} \cap \{x + y - 2z = 0\} \quad (7)$$

$$f(x, y) = \cos x \sin y, \quad M = \{x \geq 0\} \cap \{y \geq 0\} \cap \{x + y \leq \pi\} \quad (8)$$

$$f(x, y, z) = x^2 + y^2 + z^2, \quad M = \{xyz = 1\} \quad (9)$$

$$f(x, y) = x^2 - y^2, \quad M = \{x^2/4 + y^2/9 = 1\} \cap \{y \leq 0\} \quad (10)$$