

Math 220 - Calculus f. Business and Mgmt - Worksheet 43

Worksheet 43 - Local Extrema with Two Variables

Exercise 1:

Find any minima, maxima or inflection point for this function: $f(x) = x^3 - 5x^2 - 8x + 4$.

Exercise 2:

Find any local extrema or saddle points for the following functions (Note: These functions are taken from the exercises at the end of Section 28 in your textbook):

2a) $f(x, y) = x^2 - 2xy + 2y^2 + x,$

2b) $f(x, y) = (x - 1)^2 + y^3 - y^2 - y + 1,$

2c) $f(x, y) = x^2 + y^2 - y^2x^2 - 4,$

2d) $f(x, y) = x^2 + 4y^3 - 6xy - 1.$