

1. [4pts] Find $f_{xy}(1, -1)$ if $f(x, y) = x^3 - 6xy^2 + x^2 - y^3$

2. [6pts] Test for relative extrema and saddle points the function $f(x, y) = x^2 + 2y^2 - 2xy - 4y + 3$