

Math 233 - Quiz 9

November 16, 2023

Name _____

Score _____

Show all work to receive full credit. Supply explanations when necessary.

1. (5 points) Find the critical points of $f(x, y) = -x^3 + 4xy - 2y^2 + 1$.
Then use the second partials test to classify them.

2. (5 points) Use Lagrange multipliers to find the minimum value of
 $f(x, y, z) = 2x^2 + y^2 + 3z^2$ subject to the constraint $2x - 3y - 4z = 49$.