

# **Math 173 - Quiz 10**

April 18, 2019

Name \_\_\_\_\_

Score \_\_\_\_\_

Show each step to receive full credit. Supply explanations when necessary.

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1. (4 points) Use Lagrange multipliers to find the extreme values of  $f(x, y) = y^2 - 4x$  subject to  $x^2 + y^2 = 9$ .

2. (6 points) Consider the iterated integral  $\int_0^4 \int_y^{2y} (8x + e^y) dx dy$ .

(a) Evaluate the iterated integral. You'll need integration by parts. Show your work!

(b) Carefully sketch the region of integration.

(c) Set up the iterated integrals with the reversed order of integration. You'll need two iterated integrals.