

# MATH 251: Practice 10

June 8, 2015

Name: \_\_\_\_\_

1. Compute the gradient of

$$f(x, y, z) = e^{xy} + 2xz^2 + \sin(yz)$$

2. Find the directional derivative of  $f$  in the direction  $\langle 1, 1 \rangle$  at  $(-1, 2)$  for the function

$$f(x, y) = x^2 + 2y^2$$