Worksheet 03

MATH 16B GSI:TAO SU TU 09/12/2017

1. Find the values of x, y, z that maximize $3x + 5y + z - x^2 - y^2 - z^2$ subject to the constraint $x + y + z - 6 = 0$.

2. Calculate the following iterated integrals.
(a) $\int_0^1 (\int_0^1 e^{x+y} dy) dx$
(b) $\int_1^4 (\int_x^{x^2} xy dy) dx$

3. Let R be the region consisting of all points (x, y) such that $y \leq x \leq y^2, 1 \leq y \leq 4$. Calculate the double integral $\iint_R xy dx dy$.