



LUND
UNIVERSITY

MATB21 Flervariabelanalys 1
Spring 2016

Centre for Mathematical Sciences
Mathematics, Faculty of Science

Answers 160816

1. Max= $9/4$, Min= $-1/4$.
2. $z'_x(0,1) = -1/3$, $z'_y(0,1) = 7/3$.
3. a) $1 + \ln 4$, b) $\pi/64$.
5. $u(x,y) = F(x^2 + y^2) \cdot e^{x^2/2}$ where F is a differentiable 1-variable function.
6. $\max(r) = 5re^{-r^2/2}$ if $r \leq 1$ and $\max(r) = 5/\sqrt{e}$ if $r \geq 1$; $\min(r) = -\max(r)$.