

Exam II Hints and Answers
Math 126 B & C Autumn 2015

1. $x + z = -2$

2. $\frac{\partial z}{\partial x} = \frac{ye^{xy} \cos y - 2xy}{\cos z}, \frac{\partial z}{\partial y} = \frac{xe^{xy} \cos y - e^{xy} \sin y - x^2}{\cos z}$

3. The smallest value of E is $\frac{3}{4}$. (It occurs when $x = y = z = 2$.)

4. $A = \int_0^{2\pi} \int_{2+\sin(3\theta)}^{4-\cos(3\theta)} r \, dr \, d\theta = 12\pi$

5. $m = \int_0^1 \int_{2x}^2 y^2 \sin(xy) \, dy \, dx = \int_0^2 \int_0^{y/2} y^2 \sin(xy) \, dx \, dy = 2 - \sin(2)$