

Name: _____

- No electronic devices are allowed. You must show your work to obtain credit.
 - You may use the back if necessary. Please indicate clearly if you do so.
1. (5 points) Find the linearization $L(x, y)$ of function $f(x, y) = e^{x-y} \cos(\pi y)$ at the point $(0, 1)$.

2. (5 points) Calculate the differential of the function

$$T(x, y, z) = x y z e^{-x^2 - y^2 - z^2}.$$