MATH 105: SPRING 2013: QUIZ 3: DUE FRIDAY, MARCH 8, 2013

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NOTE: Write your name *and* section number. Each question is worth 10 points. The quiz is closed book. You should be able to do the quiz in 10 minutes, but you have as long as you wish. Make sure your answer is easy to find – if you write multiple answers I will only look at the first. Box your answers, and if possible answer on this paper.

Question 1 : Let $f(x, y) = \cos(\pi x y) + e^{x-y}$. Find $f(1, 1)$, the tangent plane at $(1, 1)$, and approximate $f(.95, 1.1)$ by using the tangent plane.

Question 2 : Why is $E_2(a, b) = \sum_{i=1}^{n} |y_i - (ax_i + b)|$ a difficult function to use to measure the error in a predicted linear relationship?

Question 3 : Find Df where $f(w, x, y, z) = xy + z^3$, and find all critical points.