

Due Date: Thursday, September 22 at 5PM EDT

Carefully read and provide solutions to the problems below, showing all work required to justify any conclusions you make. You are encouraged to collaborate with your classmates, but all solutions turned in should be your own work. If you do collaborate, please record the names of those other students on your submitted work. Finally, your work should be submitted as a PDF on Canvas before the listed due date.

Textbook problems: Section 14.1 #2, 10, 22, 36, 44; Section 14.2 #4, 6, 8, 14, 30, 38; Section 14.3 #10, 16, 20, 42, 50; Section 14.4 #2, 32, 34, 38

Optional textbook problems: the odd numbered problems from Sections 14.1 - 14.4

Problem 1. Approximate $\frac{1}{1 - (0.5001)(0.4997)}$ using a linear approximation to the function $f(x, y) = \frac{1}{1 - xy}$.