Calculus D - Homework Assignment Sheet Name: _____ Per. ____

Chapter 14 - Partial Derivatives

Each assignment has a total possible of ***10 points***. For each section, self-grade for completion. (You may use ½ points.) I trust that you will give an honest evaluation of your own work. Your signature at the bottom indicates that this is an honest, accurate assessment of your work. Grades will be verified, as explained in class. Try additional problems for extra practice. Each assignment lists "Priority Problems" with a "PP" designation. Full credit awarded for completion of full assignment. *Assignments are subject to change. Any changes will be announced in class.*

_____ 14.1: p. 865 #1, 5, 9, 11, 19, 21, 25, 29, 30 – 34, 35, 37, 55 – 60, Optional: 51 – 54 *Mathematica*
Try #30, but don't spend too much time on it.
For #55 – 60 focus on matching graphs with contours, less focus on equations
PP: #5, 19, 21, 29, 32, 33, 55 – 60

_____ 14.2: p. 877 #1, 2, 5, 7, 9, 15, 19, 28, 29, 33, 41
14.3: p. 888 #1, 5 – 8 (parts a & b), 15 – 43 every other odd, 51, 56, 59, 63
Note: For #43 use limit definition.
PP: 14.2 #2, 7, 9, 28, 41, 14.3 #5 – 8, 19, 27, 35, 43, 56, 63

_____ 14.5: p. 907 #1 – 21 every other odd, 27 – 33 odd, 38 – 40
14.6 Part I: p. 920 #4, 5, 11, 12, 13, 19
14.6 is more important than 14.5 for next day.
For # 27 – 33 odd, use "opposite reciprocal" formula.
Even Answers: 4) $6\sqrt{2}$, 12) 0, 38) 8160π in^3/s, 40) -0.000031 A/s
PP: Most Important 14.6 #4, 5, 11, 12, 13, 19 Secondary Importance 14.5 #5, 13, 21, 27, 31, 38, 39, 40

Quiz 14.1 – 14.5
Optional checkpoint and/or review.
Does not need to be included with HW.

_____ 14.6 Part II: p. 920 #7, 9, 15 – 27 odd, 33, 36, 47, 48 (Ans #48: $-x + 2y = 3$)
PP: All problems in this assignment

_____ 14.6 Part III: p. 921 #39 – 44, 54, 56, 59, 60a, 61b
Hint #54: Find tangent plane equation at (1, 1, 2) for both surfaces and reduce to show they are the same.
Hint #60: This is the same type of question as #59.
PP: #40, 41, 43, 59, 60a

_____ 14.7: p. 930 #1, 3, 4, 5, 7, 11, 13, 17 (graphing optional), 43, 50, (Optional: 54)
Hints: #43: Maximize $f = xyz$ if $x + y + z = 100$.
#50: Minimize cost, C, if $V = xyz$ where V is fixed constant. Find C in terms of x, y, and z then just x and y.
PP: #4, 7, 17, 43, 50

_____ **Total** (60 Points) Signature: _____ Date: _____

Verified By: _____
Print Signature