

Problem Set 4

For some problems, you might find it helpful to use Yanto Suryono's [Surface Plotter applet](http://socs.berkeley.edu/%7Esgoldman/Surface/surf.htm) (<http://socs.berkeley.edu/%7Esgoldman/Surface/surf.htm>) or Tom Banchoff's [Level Curve applet](http://www.slu.edu/classes/maymk/banchoff/LevelCurve.html) (<http://www.slu.edu/classes/maymk/banchoff/LevelCurve.html>) for visualizing functions in three dimensions.

1. Problem 13.1 (parts d, e, f only).
2. Problem 13.2. (parts d, e, f only). Let's say 5 is a "significant number" of level curves.
3. Problem 13.7.
4. Problem 13.9.
5. Problem 13.11.
6. Problem 13.12.
7. Problem 13.16. You may use the result of problem 12.8, assuming it's true without having to prove it. Then the only tricky part is dealing with the fact that problem 12.8 assumes that all the y_n are nonzero. To do this, you'll need to think about how convergent sequences are defined.
8. Problem 13.23.
9. Problem 13.24.
10. Problem 14.1.
11. Problem 14.2.
12. Problem 14.4.
13. Problem 14.5.
14. Problem 14.7.
15. Problem 14.8.
16. Problem 14.12.
17. Problem 14.13.
18. Problem 14.15.
19. Problem 14.18.
20. Problem 14.21.
21. Problem 14.23.
22. Problem 14.26.
23. Problem 14.27.