

Recitations 30, 31  
8, 10 December 1998

MA113:004-006  
Fall 1998

Below is a selection of problems related to section 4.8, Newton's method and 4.9, antiderivatives.

These problems will not be collected or graded. However, you should understand how to work each of these problems. You should begin working on these problems in groups in recitation. You will probably want to finish these problems outside of class. If you have questions, please ask your TA or instructor. If you find a problem difficult, consider working similar problems from the text for additional practice.

Announcements: 1. The final for this course is in CB122 (note room change!) from 8:30-10:30pm on Monday, 14 December 1998. 2. The project is due December 4, 1998. 3. There will be a study session for this course from 10-12am on Monday, 14 December 1998 in the Math House, on Columbia Avenue across from W.T. Young Library. 3. There are quizzes on 12/7 and 12/9.

1. Written homework due at 10am on 7 December 1998. §4.5 14, 48. §4.6 10, 30.
2. Written homework due at 10am on 9 December 1998. §4.8 20a, 21. §4.9 18, 40.
3. Section 4.8 1, 4, 5, 9, 11, 13, 19, 29 (Every "business calculator" such as the HP12C and spreadsheet has built in functions to solve problems like #29. How do they find these solutions?)
4. Section 4.9 1, 3, 11, 13, 17, 22, 25, 33, 37, 39.
5. (Review) Compute the derivatives: of the following functions:

$$\frac{d}{dx} \frac{x^2 + 1}{x^2 - 1} \quad \frac{d}{dx} \sin x \cos x \quad \frac{d}{dx} e^{2x^2}.$$

6. (Review) Find the limits:

$$\lim_{x \rightarrow 0} (1 + 2x)^x, \quad \lim_{x \rightarrow \infty} (1 + 2/x)^{1/x}.$$

December 2, 1998