Recitation 6 MA113:004–006
15 September 1998 Fall 1998

Reminders: 1. The second graded homework assignment is due on Wednesday, 9/16/98 at 10am. The assignment is §1.4 #26, 32, §1.5 # 24. 2. The project on hypocycloids is due on Friday, 9/18/98. 3. The first exam will be in CB114 from 7:30–9:30, Tuesday 22 September.
Below is a selection of problems related to section 1.6. 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.

1. Work the following problems from Stewart, section 1.6. #2, 5, 7, 13, 18, 23, 25, 35, 39, 49–52, 57.

2. If $\log_a t = 2$, find i) $\log_a t^2$, ii) $\log_a(1/t)$, iii) $\log_a \sqrt{t}$. Hint: The answers do not depend on a, thus you probably do not need to know the numerical value of a.

3. Explain why formula 10 on page 70 of Stewart is true.

4. (a) Sketch the graph of $f(x) = (1/2)^x$.
   (b) Sketch the graph of $\log_{1/2} x$.
   (c) Is the function in part b) increasing or decreasing? (See the definitions of increasing and decreasing functions on page 26.)

5. (a) If a function f is one-one and increasing, is $f^{-1}(x)$ increasing or decreasing?
   (b) If a function f is increasing, is the reciprocal, $g(x) = 1/f(x)$ increasing or decreasing?

6. Suppose that you are told that $p(1) = 5$ and $p(n+1) = p(n)$, can you find $p(4)$? Can you find a general formula for $p(n)$? q

7. Suppose that you are told $p(1) = 5$ and $p(n+2) = p(n)$. Can you find $p(4)$? Can you find $p(5)$?