

## Homework #7: Due Thursday, Oct 27, at noon

Problems are taken from the exercises in the Hughes-Hallett textbook. Read through the text before working on the problems, and please make use of office hours provided by the teaching staff or the Math Learning Center if you find them difficult. Submit your homework either to your instructor during lecture or to your TA during recitation or at their office. Late homework assignments will not be accepted.

### Problems

Write up these problems neatly and submit them by the due date above. Show your work where appropriate for full credit. If your homework solutions require multiple pages, please staple them together.

- Section 3.4: 2, 6, 14 (hint: simplify first!), 16, 24, 36, 38, 42
- Chapter 3 Review (pp. 159–162): 24, 34, 36, 54, 66
- Extra Problem:
  - (a) Find the first derivative of  $f(x) = \sqrt{x^2 - 1}$ . Simplify your answer.
  - (b) Find the second derivative of  $f(x)$ . Simplify your answer. (Hint: use the quotient rule and your answer to part (a).)

### Exercises

Attempt these problems, but *do not* submit your solutions to be graded. The exams may include problems similar to these ones.

- Section 3.4: 1–33 odd, 39–41
- Chapter 3 Review (pp. 159–161): 1–18, 35–41 odd, 59, 61, 65, 67, 81