

Math 421

Problem Set 4

Fall, 2006

Due: Wednesday, Oct. 25

1. Do page 98, Exercise 1 (b). You may use derivative rules (3-4)–(3-10) on page 96.
2. Do page 98, Exercise 2 (b).
3. Do page 99, Exercise 8.
4. Do page 99, Exercise 11. Note that you have to show two things: first, f is differentiable at $z_0 = 0$; second, f is *not* differentiable at $z_0 \neq 0$.
5. Do page 110, Exercise 1 (d).
6. Do page 111, Exercise 8 (a).
7. Do page 112, Exercise 14.
8. Do page 120, Exercise 2.
9. Do page 120, Exercise 5 (a) and (c).
10. Do page 120, Exercise 10.