

**Mathematics V1207x**  
**Honors Mathematics A**

**Assignment #8**

Due Tuesday, November 17, 2015

Reading: Apostol, §§5.7–5.9, pp. 212–220, and §§6.1–6.16, pp. 226–248. (Don't miss the fascinating section 6.10, "Polynomial approximations to the logarithm," which helps explain the motivation for introducing Taylor series.)

In the starred problems below that are computations, be sure to give brief but convincing justification for your reasoning — citing the theorems you use, for example. Don't just state the answer.

1. Apostol §4.15 (pp. 186–87) 2, 4, 7, \*8.
2. Apostol §5.5 (pp. 208–210) 12, \*19, \*20, 28.
3. Apostol §5.8 (pp. 216–217) 13, 21, \*23, 24.
4. Apostol §5.11 (pp. 222–225) 4, \*5.
5. Apostol §6.9 (p. 237) \*28, \*29, 30.
6. Apostol §6.17 (pp. 248–250) 35, 36, 37, 38, \*39.