DUE: TUESDAY October 11, 2011

To receive full credit, you must exhibit the intermediate steps that lead you to your final results.

1. Boas, problem p. 578, 12.7–5

2. Boas, problem p. 580, 12.8–5

3. Boas, problem p. 581, 12.9–5. In deriving the Legendre series of the form

$$\sum_{\ell=0}^{\infty} c_\ell P_\ell(x)\,,$$

find an explicit expression for c_ℓ. Then write out the first three nonzero terms of the series.

4. Boas, problem p. 582, 12.9–16

5. Boas, problem p. 584, 12.10–3

6. Boas, problem p. 584, 12.10–8

7. Boas, problem p. 587, 12.11–13

8. Boas, p. 590, problem 12.12–8

9. Boas, p. 590, problem 12.12–9

10. Boas, p. 591, problem 12.13–6

11. Boas, p. 593, problem 12.15–7

12. Boas, p. 616, problem 12.23–19