DUE: TUESDAY October 9, 2012

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

1. Boas, problem p. 564, 12.1–8

2. Boas, problem p. 564, 12.1–10

3. Boas, problem p. 567, 12.2–2

4. Boas, problem p. 567, 12.2–4

5. Boas, problem p. 568, 12.3–4

6. Boas, p. 569, problem 12.4–2

7. Boas, p. 569, problem 12.4–4

8. Boas, p. 574, problem 12.5–10

9. Boas, p. 577, problem 12.6–2

10. Boas, p. 586, problem 12.11–5

11. Boas, p. 587, problem 12.11–13

12. Boas, p. 615, problem 12.23–3

NOTE: A left parenthesis has been omitted in problems 12.23–2 and 12.23–3 due to a typographical error. The correct equations read:

$$P_{2n}(0) = \binom{-1/2}{n} = \frac{(-1)^n(2n-1)!!}{2^n\, n!}\,,$$

and

$$\int_0^1 P_{2n+1}(x)\,dx = \frac{(-1)^n(2n-1)!!}{2^{n+1}(n+1)!} = \binom{1/2}{n+1}\,.$$