Section 8.2: Trigonometric integrals

1 Integrals $\int \cos^m x \sin^n x \mathrm{d}x$.

1.1 m or n(or both) odd

Exercise 1. (5p470) Evaluate $\int \sin^3 x \cos^4 x \mathrm{d}x$

Exercise 2. Evaluate $\int \cos^5 x \sin^6 x \mathrm{d}x$.

Exercise 3. Evaluate $\int \frac{\sin^3 x}{\cos^5 x} \mathrm{d}x$.

Exercise 4. Evaluate $\int \cos^5 x \mathrm{d}x$.

Remark:

1.2 m and n even

Exercise 5. Evaluate $\int \cos^2 x \sin^4 x \mathrm{d}x$.

Remark:

2 Integrals $\int \tan^m x \sec^n x \mathrm{d}x$.

2.1 n even

Exercise 6. Evaluate $\int \tan^3 x \sec^4 x \mathrm{d}x$.

Remark:

2.2 m odd

Exercise 7. Evaluate $\int \tan^3 x \mathrm{d}x$.

Exercise 8. Evaluate $\int \tan^3 x \sec^3 x \mathrm{d}x$.

3 Integrals $\int \cos(ax)\sin(bx)\mathrm{d}x$.

Exercise 9. Evaluate $\int \sin(3x)\cos(5x)\mathrm{d}x$.

Exercise 10. Evaluate $\int \cos(x)\cos(2x)\mathrm{d}x$.

Exercise 11. Evaluate $\int \sin(2x)\cos(7x)\mathrm{d}x$.