

7.1 HW

Instructor: Wesley Pegden

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Due Monday, September 17.

1. Evaluate $\int e^x \cos x dx$.
2. Evaluate $\int_1^3 \ln(2x + 1) dx$.
3. Evaluate $\int (\ln x)^2 dx$.
4. Evaluate $\int \sin(\sqrt{x}) dx$. (Hint: use substitution and then integration by parts.)
5. Evaluate $\int x^5 e^{x^2}$. (Hint: use substitution and then integration by parts.)
6. Use integration by parts to prove that $\int x^n e^x dx = x^n e^x - n \int x^{n-1} e^x dx$. Check your answer by taking the derivative.