

Integration using tables and the computer (computer algebra system)

1. Find the integral in the table that most matches the integral and write the formula number. If you need to perform a substitution or do algebra in order to use it, say so. If you must find values for constants (a,b, etc.) state them. Evaluate the integral.

(a) $\int e^{7x} \sin(4x) dx$

(b) $\int \csc^3(x/2) dx$

(c) $\int \frac{\sqrt{4-3x^2}}{x} dx$

(d) $\int \frac{x}{\sqrt{x^2-4x}} dx$

2. Using repeating formulas. Write the formula number for the integral and state values for the constants. You may need to use the same formula many times

(a) $\int x e^x dx$

(b) $\int x^2 \ln x dx$

(c) $\int x^4 \cos x dx$

3. Using a computer find the integral of $\int \tan^4 x \sec^4 x dx$.

4. Try to have the computer integrate $\int (1 + \ln x) \sqrt{1 + (x \ln x)^2} dx$ If it does not work, try to perform a substitution that makes the computer able to integrate it. Evaluate the integral.