

Calculus II

Section 7.6 – Integration Using Tables and Computer Algebra Systems

The analytical methods from previous sections provide ways to integrate various functions. However, there are still many integrals that cannot be evaluated using these methods. When all else fails:

- Tables of integrals
- Symbolic methods (computer software as well as some calculators)
- Numerical methods (not covered in this section)

Here are a few free web sites that do indefinite integral evaluation as well as showing the solution step by step:

- <https://www.symbolab.com/solver/indefinite-integral-calculator>
- <http://www.integral-calculator.com/>
- <https://www.emathhelp.net/calculators/calculus-2/integral-calculator/>
- <https://www.mathway.com> This website has a ton of features – graphing of all kinds – as well as integration.

Use tables then online calculators to evaluate each of the following:

1. $\int \cos^{-1} x \, dx$

2. $\int \sin 3x \cos 2x \, dx$

3. $\int \frac{dx}{1 - \cos 4x}$

4. $\int \sqrt{x^2 + 10x} \, dx$

5. $\int \frac{\cos x}{\sin^2 x + 2 \sin x} \, dx$