

Calculus II  
Review for test 2  
Luczak

Evaluate the following integrals by the method of your choice. For definite integrals give exact answers only, NO DECIMAL APPROXIMATIONS.

1.  $\int_1^e \frac{1 - \ln x}{x} dx$

2.  $\int_0^{\frac{\pi}{2}} \cos^2(-3\theta) d\theta$

3.  $\int_0^{\frac{1}{2}} \tan^{-1}(2x) dx$

4.  $\int \frac{x^2 + 2x + 2}{x + 1} dx$

5.  $\int_0^1 e^x \tan e^x dx$

6.  $\int x^2 \cos(3x) dx$

7.  $\int \tan x \sec^3 x dx$

8.  $\int \frac{\ln x}{x^2} dx$

9.  $\int \frac{\tan^3 x}{\sec^2 x} dx$

10.  $\int \frac{1}{(x^2 - 4)^{\frac{3}{2}}} dx$