

Calculus II
Practice Exam 2

Find the indefinite integrals of the following functions.

1. $\int \frac{\arccos x}{\sqrt{1-x^2}} dx$

2. $\int \frac{(\ln x + 1)^2}{x} dx$

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

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

5. $\int \sqrt{x}(x+1) dx$

6. $\int \frac{dx}{x(x^2+4x+5)}$

7. $\int x^2 \sin x dx$

Calculate the definite integral.

8. $\int_0^2 (x^2 + 3x - 1)^2 (2x + 3) dx$

9. $\int_1^e x^2 \ln(2x) dx$

10. $\int_0^2 \frac{dx}{x^2 + 4x + 5}$