

-
1. Evaluate the integral: $\int x^2 \cos(\alpha x) dx$
 2. Evaluate the integral: $\int \ln(x) dx$
 3. Evaluate the integral: $\int_1^7 \frac{\ln x}{x^3} dx$
 4. Evaluate the integral: $\int \ln(x^2 + 1) dx$
 5. First make a substitution, then use integration by parts to evaluate: $\int \ln(\sin x) \sin(2x) dx$
 6. Evaluate the integral: $\int x^{3/5} \ln x dx$
 7. Evaluate the integral: $\int \sin^{-1} x dx$
 8. Evaluate the integral: $\int x e^x dx$
 9. Prove the reduction formula: $\int x^n \sin x dx = -x^n \cos x + n \int x^{n-1} \cos x dx$
 10. Use integration by parts to show that $\int 2x f(x) dx = x^2 f(x) - \int x^2 f'(x) dx$