

Math 1497 Calc. II – Sample Test 1

Integrate the following

- (1) $\int \tan^{-1} x \, dx$, (2) $\int \frac{\ln x}{x^2} \, dx$, (3) $\int_0^1 x e^x \, dx$, (4) $\int \sin^{-1} x \, dx$,
- (5) $\int_0^1 \frac{dx}{\sqrt{1-x^2}}$, (6) $\int_1^5 \ln x \, dx$, (7) $\int \sec^3 x \, dx$, (8) $\int_{-3}^3 \frac{dx}{4-x^2}$,
- (9) $\int \sin^2 x \cos^3 x \, dx$, (10) $\int_0^\infty x e^{-x^2} \, dx$, (11) $\int \cos^3 x \, dx$,
- (12) $\int_{\frac{\pi}{4}}^{\frac{\pi}{3}} \tan^2 x \sec^2 x \, dx$, (13) $\int \frac{dx}{(x^2+4)^{3/2}}$, (14) $\int \frac{dx}{\sqrt{4x-x^2}}$, (15) $\int \frac{dx}{\sqrt{x^2-4}}$,
- (16) $\int \frac{dx}{x^2+3x+2}$, (17) $\int_0^{1/2} \frac{x^3 \, dx}{\sqrt{1-x^2}}$, (18) $\int \frac{x^2 \, dx}{(x^2+1)^{3/2}}$,
- (19) $\int \frac{2x-1 \, dx}{(x-1)(x-2)^2}$, (20) $\int \sin^5 x \cos^4 x \, dx$, (21) $\int \frac{dx}{x^3+x}$,
- (22) $\int_{-1}^2 \frac{dx}{\sqrt{5+4x-x^2}}$, (23) $\int \sin^2 x \cos^2 x \, dx$, (24) $\int_{-\infty}^{\infty} \frac{dx}{x^4}$,
- (25) $\int \frac{4x^2-x+7 \, dx}{(x-1)(x^2+4)}$, (26) $\int_0^\infty \frac{dx}{\sqrt{x+1}}$, (27) $\int \tan^3 x \sec^3 x \, dx$, (28) $\int_{-1}^2 \frac{dx}{x-2}$,
- (29) $\int \frac{dx}{x^2 \sqrt{x^2-9}}$, (30) $\int \frac{x^3 \, dx}{\sqrt{x^2+9}}$, (31) $\int_{\sqrt{2}}^2 \frac{x^5 \, dx}{\sqrt{1-x^2}}$, (32) $\int \tan^3 x \sec^4 x \, dx$.