Chapter 6 Part 2

Review

Rewrite the following integral in terms of u

1. $\int_0^1 -15x^4\left(-3x^5-1\right)^5\,dx$ Let $u=-3x^5-1$

Rewrite the following integral in terms of u

3. $\int_0^{\pi/4} 4\sec(4x)\tan(4x)\sec^4(4x)\,dx$

Let $u = \sec(4x)$

Evaluate the integral p. 338 33

$$\int \frac{\ln^6 x}{x}\, dx$$

Evaluate the integral p. 338 41

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

Evaluate the integral p. 338 34

$$\int \tan^7\left(\frac{x}{2}\right)\sec^2\left(\frac{x}{2}\right)dx$$

Evaluate the integral p. 338 37

$$\int \frac{\sin(2x+1)}{\cos^2(2t+1)}\,dx$$

Evaluate the integral p. 338 22

$$\int \frac{9x^2}{\sqrt{1-x^3}}\,dx$$

Evaluate the integral p. 338 66

$$\int_0^2 \frac{e^x}{3+e^x}\,dx$$

Find the average value on the interval [0, 3] for the function

$$f(x) = \sqrt{x+1}$$

Evaluate the integral p. 346 9

$$\int x \ln x dx$$

Evaluate the integral p. 346 22

$$\int \left(x^2 - 5x\right) e^x \, dx$$

Find the particular solution p. 357 5

$$\frac{dy}{dx} = (y-5)(x+2) \qquad \text{f}(0)=1$$

Use Euler's method with 2 steps of equal value to estimate f(1).

$$\frac{dy}{dx} = (y-5)(x+2) \qquad f(0)=1$$

Evaluate the integral p. 369 6

$$\int \frac{2x+16}{x^2+x-6}\,dx$$

Evaluate the integral p. 369 16

$$\int \frac{2}{x^2 - 1}\, dx$$

Evaluate the integral p. 467 24

$$\int_{-\infty}^{\infty} e^{2x} dx$$

Evaluate the integral p. 471 37

$$\int_1^{\infty} \frac{dx}{x^{3/2}}$$

Evaluate the integral p. 471 44

$$\int_3^{\infty} \frac{2dx}{x^2 - 2x}$$