

6.9 Integrating Using Substitution

Calculus

Name: _____

CA #2

Find the indefinite integrals.

1. $\int \cos(2x + 1) dx$

2. $\int 2x e^{3x^2} dx$

3. $\int (6x^2 - 1)(2x^3 - x)^3 dx$

4. $\int \sec(5x) \tan(5x) dx$

5. $\int \frac{\sqrt{\ln(x)}}{x} dx$

Evaluate the definite integrals.

6. $\int_0^1 x^3 (2x^4 + 1)^2 dx$

7. $\int_0^2 \frac{x}{\sqrt{1+2x^2}} dx$

8. $\int_0^1 e^{-2x} dx$

$$9. \int_e^{e^2} \frac{1}{x \ln x} dx$$

$$10. \int_0^{\frac{\pi}{12}} \frac{\cos(2x)}{\sin(2x)+1} dx$$

Answers to 6.9 CA #2

1. $\frac{1}{2} \sin(2x + 1) + C$	2. $\frac{1}{3} e^{3x^2} + C$	3. $\frac{1}{4} (2x^3 - x)^4 + C$	4. $\frac{1}{5} \sec(5x) + C$
5. $\frac{2}{3} (\ln x)^{\frac{3}{2}} + C$	6. $\frac{13}{12}$	7. 1	8. $\frac{1}{2} - \frac{1}{2e^2}$
			9. $\ln 2$
			10. $\frac{1}{2} \ln\left(\frac{3}{2}\right)$