10/18/16
Name

Antiderivatives 5

Find the indicated antiderivative. Check your answers.

1. Use $u = x^2 + 1$

$$\int \frac{2x}{x^2+1}\,dx = \ln\left(x^2+1\right) + C$$

2. Use $u = 1 + \sin x$

$$\int \frac{\cos x}{1+\sin x}\,dx = \ln|1+\sin x| + C$$

3. Use $u = 1 + x^4$

$$\int \frac{x^3}{1+x^4}\,dx = \frac{1}{4}\ln\left(1+x^4\right) + C$$

4. Use $u = e^x + 2x + 7$

$$\int \frac{e^x+2}{e^x+2x+7}\,dx = \ln|e^x+2x+7| + C$$

5. Use $u = 2x + 5$

$$\int \frac{3}{2x+5}\,dx = \frac{3}{2}\ln|2x+5| + C$$

6. Use $u = x^2 + 1$

$$\int \frac{2x}{\left(x^2+1\right)^2}\,dx = -\frac{1}{x^2+1} + C$$

7. Use $u = 1 + \sin x$

$$\int \frac{\cos x}{\left(1+\sin x\right)^2}\,dx = -\frac{1}{1+\sin x} + C$$

8. Use $u = 1 + x^4$

$$\int \frac{x^3}{\left(1+x^4\right)^3}\,dx = -\frac{1}{8\left(1+x^4\right)^2} + C$$

9. Use $u = e^x + 2x + 7$

$$\int \frac{e^x + 2}{(e^x + 2x + 7)^3}\, dx = -\frac{1}{2\,(e^x + 2x + 7)^2} + C$$

10. Use $u = 2x + 5$

$$\int \frac{3}{(2x + 5)^4}\, dx = -\frac{1}{2(2x + 5)^3} + C$$