Integration Practice

Evaluate each definite integral.

1) $\int_{-2}^{0} \frac{2x}{(x^2+1)^2}\,dx;\ u = x^2 + 1$

2) $\int_{0}^{2} -\frac{6x}{(x^2+4)^2}\,dx;\ u = x^2 + 4$

3) $\int_{1}^{2} \frac{4x}{(x^2+2)^2}\,dx;\ u = x^2 + 2$

4) $\int_{-3}^{-2} -\frac{6x}{(x^2+1)^2}\,dx;\ u = x^2 + 1$

5) $\int_{0}^{1} \frac{4x}{(x^2+1)^2}\,dx;\ u = x^2 + 1$

6) $\int_{-1}^{2} \frac{16x}{(4x^2+2)^2}\,dx;\ u = 4x^2 + 2$

7) $\int_{0}^{1} -\frac{8x}{(2x^2+1)^2}\,dx$

8) $\int_{-3}^{-1} \frac{12x}{(2x^2+2)^2}\,dx$

9) $\int_{0}^{1} -\frac{6x}{(3x^2+1)^2}\,dx$

10) $\int_{0}^{1} \frac{4x}{(2x^2+1)^2}\,dx$

11) $\int_{-2}^{1} -\frac{6x}{(x^2+1)^2}\,dx$

12) $\int_{-3}^{-1} \frac{8x}{(2x^2+2)^2}\,dx$

13) $\int_{-1}^{1} -18x^2(2x^3-1)^2\,dx$

14) $\int_{-1}^{0} \frac{12x}{(3x^2+2)^2}\,dx$

15) $\int_{-2}^{1} -\frac{4x}{(x^2+2)^2}\,dx$

16) $\int_{-1}^{0} -\frac{4x}{(2x^2+2)^2}\,dx$

Answers to Integration Practice

1) $-\frac{4}{5} = -0.8$

2) $-\frac{3}{8} = -0.375$

3) $\frac{1}{3} \approx 0.333$

4) $\frac{3}{10} = 0.3$

5) 1

6) $\frac{2}{9} \approx 0.222$

7) $-\frac{4}{3} \approx -1.333$

8) $-\frac{3}{5} = -0.6$

9) $-\frac{3}{4} = -0.75$

10) $\frac{2}{3} \approx 0.667$

11) $\frac{9}{10} = 0.9$

12) $-\frac{2}{5} = -0.4$

13) -28

14) $-\frac{3}{5} = -0.6$

15) $\frac{1}{3} \approx 0.333$

16) $\frac{1}{4} = 0.25$