

Assignment Integration by substitution

Evaluate each indefinite integral.

1) $\int 3x^2(x^3 - 5)^4 dx$

2) $\int 12x^2(4x^3 + 5)^5 dx$

3) $\int 9x^2 \cos(x^3 - 5) dx$

4) $\int 12x^2 \sec^2(4x^3 - 5) dx$

5) $\int \frac{20x}{5x^2 + 4} dx$

6) $\int \frac{60x^4}{3x^5 + 5} dx$

7) $\int -60x^4 e^{4x^5 - 1} dx$

8) $\int 75x^4 e^{3x^5 - 4} dx$

9) $\int 45x^4 e^{3x^5 - 1} dx$

10) $\int 12x^3 e^{3x^4 - 1} dx$

Answers to Assignment Integration by substitution

1) $\frac{1}{5}(x^3 - 5)^5 + C$

2) $\frac{1}{6}(4x^3 + 5)^6 + C$

3) $3\sin(x^3 - 5) + C$

4) $\tan(4x^3 - 5) + C$

5) $2\ln(5x^2 + 4) + C$

6) $4\ln|3x^5 + 5| + C$

7) $-3e^{4x^5 - 1} + C$

8) $5e^{3x^5 - 4} + C$

9) $3e^{3x^5 - 1} + C$

10) $e^{3x^4 - 1} + C$