

## Assignment Integration by substitution

Evaluate each indefinite integral.

1)  $\int (3x^3 - 4)^4 \cdot 9x^2 dx$

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

3)  $\int 18x \cos(3x^2 - 1) dx$

4)  $\int -40x \sin(4x^2 + 5) dx$

5)  $\int -\frac{25x^4}{x^5 - 2} dx$

6)  $\int \frac{3x^2}{x^3 + 3} dx$

7)  $\int -2xe^{x^2+5} dx$

8)  $\int 64x^3 e^{4x^4-3} dx$

9)  $\int 60x^2 e^{5x^3-4} dx$

10)  $\int 60x^3 e^{3x^4+1} dx$

## Answers to Assignment Integration by substitution

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

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

3)  $3\sin(3x^2 - 1) + C$

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

5)  $-5\ln|x^5 - 2| + C$

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

7)  $-e^{x^2+5} + C$

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

9)  $4e^{5x^3-4} + C$

10)  $5e^{3x^4+1} + C$

