

## Integration by Substitution

Evaluate each indefinite integral. Use the provided substitution.

1)  $\int \frac{20x^4}{4x^5 + 3} dx; u = 4x^5 + 3$

2)  $\int 36x^2 e^{4x^3 + 3} dx; u = 4x^3 + 3$

3)  $\int 80x^3 \cdot 3^{5x^4 - 2} dx; u = 5x^4 - 2$

4)  $\int \frac{2}{x(-1 + \ln 4x)} dx; u = -1 + \ln 4x$

Evaluate each indefinite integral.

5)  $\int \frac{12x^2}{x^3 + 2} dx$

6)  $\int \frac{20e^{5x}}{e^{5x} + 3} dx$

7)  $\int 10 \sin -2x \cdot e^{\cos -2x} dx$

8)  $\int \frac{5e^{-3 + \ln 3x}}{x} dx$