

# Substitution Rule

1. Find:

$$\int e^{5x} dx$$

$$\int (x+1)(2x+x^2)^{\frac{5}{2}} dx$$

$$\int \frac{\sin(\sqrt{x})}{\sqrt{x}} dx$$

$$\int \frac{1}{5x+1} dx$$

$$\int x^3 \sqrt{1+x^2} dx$$

2. Find:

$$\int_{-1}^3 e^{5x} dx$$

$$\int_4^9 (x+1)(2x+x^2)^{\frac{5}{2}} dx$$

$$\int_1^4 \frac{\sin(\sqrt{x})}{\sqrt{x}} dx$$

$$\int_1^4 \frac{1}{x^2} \sqrt{1 + \frac{1}{x}} dx$$

$$\int_0^1 \frac{1}{(1 + \sqrt{x})^4} dx$$