

Integration by Substitution (5.6)**Indefinite Integrals Using Substitution:** *Integrate.*

1.
$$\int \frac{(1+\sqrt{x})^3}{\sqrt{x}} dx$$

2.
$$\int (x^4 - 2x^2 + 8x - 2)(x^3 - x + 2) dx$$

Definite Integrals Using Substitution: *Solve the integral.*

3.
$$\int_{-1}^1 t^3 (1+t^4)^3 dt$$

4.
$$\int_1^4 \frac{10\sqrt{v}}{(1+v^{3/2})^2} dv$$

Integrate.

5. $\int \cos(3z+4) dz$

6. $\int \frac{dx}{\sqrt{5x+8}}$

Integrate.

7. $\int_{-2}^0 \frac{9r^2 dr}{\sqrt{1-r^3}}$

8. $\int_0^{\pi/2} \sin^5(3x) \cos(3x) dx$