

**Antiderivatives (4.9)****Indefinite Integrals:** Evaluate the indefinite integral.

1.  $\int (3x^2 - x - e^x) dx$

2.  $\int \sec(x+5)\tan(x+5) dx$

**Initial Value:** Find  $y$  or  $f(x)$  using the initial value.

3.  $\frac{dy}{dx} = \cos 5x, \quad y\left(\frac{\pi}{4}\right) = 2$

4.  $f''(x) = \frac{3}{\sqrt{x}}, \quad f(4) = 20, \quad f'(4) = 7$

**Indefinite Integrals:** Evaluate the Indefinite Integral.

5.  $\int \frac{x^3 + 3x - 4}{x^2} dx$

6.  $\int (\cos x + \sin x) dx$

**Initial Value:** Find  $y$  or  $f(x)$  using the initial value.

7.  $\frac{dy}{dx} = 2x - \frac{3}{x^4}$ ,  $x > 0$ ,  $y(1) = 3$

8.  $f''(x) = x^3 - 2x + 1$ ,  $f(0) = 0$ ,  $f'(0) = 1$