CHAPTER 7: INTEGRALS WE KNOW

$$\int x^n \, dx = \frac{1}{n+1}x^{n+1} + C \quad (n \neq -1)$$

$$\int \frac{1}{x} \, dx = \ln|x| + C \qquad \int \frac{1}{ax+b} \, dx = \frac{1}{a}\ln|ax+b| + C$$

$$\int e^x \, dx = e^x + C \qquad \int e^{ax} \, dx = \frac{1}{a}e^{ax} + C$$

$$\int \cos(x) \, dx = \sin(x) + C \qquad \int \cos(ax) \, dx = \frac{1}{a}\sin(ax) + C$$

$$\int \sec^2(x) \, dx = \tan(x) + C$$

$$\int \sec(x)\tan(x) \, dx = \sec(x) + C$$

$$\int \sin(x) \, dx = -\cos(x) + C \qquad \int \sin(ax) \, dx = -\frac{1}{a}\cos(ax) + C$$

$$\int \csc^2(x) \, dx = -\cot(x) + C$$

$$\int \csc(x)\cot(x) \, dx = -\csc(x) + C$$

$$\int \frac{1}{1+x^2} \, dx = \tan^{-1}(x) + C$$

$$\int \frac{1}{\sqrt{1-x^2}} \, dx = \sin^{-1}(x) + C$$

$$\int \tan(x) \, dx = \ln|\sec(x)| + C$$

$$\int \cot(x) \, dx = \ln|\sin(x)| + C$$