CHAPTER 7.5: INTEGRALS WE KNOW

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

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

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

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

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

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

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

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

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

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

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

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

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

$$\int \sec^3(x) \, dx = \frac{1}{2}\left(\sec(x)\tan(x) + \ln|\sec(x) + \tan(x)|\right) + C$$