Tabla de Integrales

1.
$$\int u^n du = \frac{1}{n+1} u^{n+1} + C , \ n \neq -1$$

$$4. \qquad \int a^u \, du = \frac{1}{\ln(a)} \, a^u + C$$

7.
$$\int \sec^2(u) \, du = \tan(u) + C$$

10.
$$\int \csc(u) \cot(u) du = -\csc(u) + C$$

13.
$$\int \sec(u) \, du = \ln|\sec(u) + \tan(u)| + C$$

15.
$$\int \frac{du}{a^2 + u^2} = \frac{1}{a} \arctan\left(\frac{u}{a}\right) + C$$

$$2. \qquad \int \frac{1}{u} \, du = \ln(u) + C$$

$$\int \sin(u) \, du = -\cos(u) + C$$

8.
$$\int \csc^2(u) \, du = -\cot(u) + C$$

$$\int \csc(u) \cot(u) du = -\csc(u) + C \qquad | 11. \qquad \int \tan(u) du = -\ln|\sec(u)| + C$$

$$\int \sec(u) \, du = \ln|\sec(u) + \tan(u)| + C \quad | \quad 14. \quad \int \csc(u) \, du = \ln|\csc(u) - \cot(u)| + C$$

16.
$$\int \frac{du}{a^2 - u^2} = \frac{1}{2a} \ln \left| \frac{u + a}{u - a} \right| + C$$

$$3. \qquad \int e^u \, du = e^u + C$$

6.
$$\int \cos(u) \, du = \sin(u) + C$$

9.
$$\int \sec(u) \tan(u) du = \sec(u) + C$$

12.
$$\int \cot(u) \, du = \ln|\operatorname{sen}(u)| + C$$

17.
$$\int \frac{du}{u^2 - a^2} = \frac{1}{2a} \ln \left| \frac{u - a}{u + a} \right| + C$$

1.
$$\int \sqrt{a^2 + u^2} \, du = \frac{u}{2} \sqrt{a^2 + u^2} + \frac{a^2}{2} \ln \left(u + \sqrt{a^2 + u^2} \right) + C \quad 2. \quad \int \frac{du}{\sqrt{a^2 + u^2}} = \ln \left(u + \sqrt{a^2 + u^2} \right) + C$$

3.
$$\int \sqrt{a^2 - u^2} \, du = \frac{u}{2} \sqrt{a^2 - u^2} + \frac{a^2}{2} \arcsin\left(\frac{u}{a}\right) + C$$

$$4. \int \frac{du}{\sqrt{a^2 - u^2}} = \arcsin\left(\frac{u}{a}\right) + C$$

5.
$$\int \sqrt{u^2 - a^2} \, du = \frac{u}{2} \sqrt{u^2 - a^2} - \frac{a^2}{2} \ln \left| u + \sqrt{u^2 - a^2} \right| + C \qquad 6. \qquad \int \frac{du}{\sqrt{u^2 - a^2}} = \ln \left| u + \sqrt{u^2 - a^2} \right| + C$$

2.
$$\int \frac{du}{\sqrt{a^2 + u^2}} = \ln\left(u + \sqrt{a^2 + u^2}\right) + C$$

4.
$$\int \frac{du}{\sqrt{a^2 - u^2}} = \arcsin\left(\frac{u}{a}\right) + C$$

6.
$$\int \frac{du}{\sqrt{u^2 - a^2}} = \ln \left| u + \sqrt{u^2 - a^2} \right| + C$$

1.
$$\int u e^{a u} du = \frac{1}{a^2} (a u - 1) e^{a u} + C + C$$

3.
$$\int e^{au} \sin(bu) du = \frac{e^{au}}{a^2 + b^2} (a \sin(bu) - b \cos(bu)) + C$$

2.
$$\int \ln(u) \, du = u \, \ln(u) - u + C$$

3.
$$\int e^{au} \sin(bu) du = \frac{e^{au}}{a^2 + b^2} (a \sin(bu) - b \cos(bu)) + C \quad 4. \quad \int e^{au} \cos(bu) du = \frac{e^{au}}{a^2 + b^2} (a \cos(bu) + b \sin(bu)) + C \quad 4.$$

(c) Departamento de Matemáticas. ITESM, Campus Monterrey