$$\int (x^2 + 2x + 1)\, dx$$

$$\int (x^2) + 2x + (A \cdot dx)$$

$$\int \frac{1}{t^2+4}\,dt = \frac{1}{4}\int \frac{1}{\frac{t^2}{4}+1}\,dt =$$

$$= \frac{1}{4}\cdot\int \frac{1}{\left(\frac{t}{2}\right)^2+1}\,dt = \left|\begin{array}{l} z = \frac{t}{2} \\ dz = \frac{1}{2}\,dt \\ 2\,dz = dt \end{array}\right| =$$

$$= \frac{1}{4}\cdot\int \frac{1}{z^2+1}\,2\,dz = \frac{1}{2}\cdot \operatorname{arctg} z + C_1$$

$$= \frac{1}{2}\cdot \operatorname{arctg}\frac{t}{2} + C_1$$

$$\int \frac{f'}{f}\,dx = \left| \begin{array}{l} t = f(x) \\ 1 \cdot dt = f'(x)\,dx \end{array} \right| =$$

$$= \int \frac{1}{t}\,dt = \ln|t| + C =$$

$$= \ln|f(x)| + C .$$

$$\int f(ax+b)\,dx = \left| \begin{array}{l} t = ax+b \\ dt = a \cdot dx \\ dx = \frac{1}{a} \cdot dt \end{array} \right| =$$

$$= \frac{1}{a} \int f(t) \cdot dt = \underline{\underline{\frac{1}{a} \cdot F_{(ax+b)} + C}}$$