

$$a) \int \frac{1}{x+1} dx = \ln|x+1| + C$$

ou que $(x+1)' = 1$.

$$b) \int \frac{1}{3x+2} dx = \frac{1}{3} \int \frac{1}{\underbrace{3x+2}_{()'}} \cdot 3 dx$$

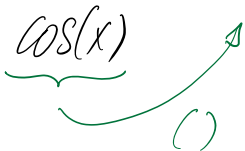
$$= \frac{1}{3} \ln|3x+2| + C$$

$$d) \int f(x) dx = \frac{1}{3}x^3 + \frac{1}{2}x^2 + x + 3 \int \frac{1}{5x-1} dx$$

$$= \frac{1}{3}x^3 + \frac{1}{2}x^2 + x + \frac{3}{5} \int \frac{1}{\underbrace{5x-1}_{()'}} \cdot 5 dx$$

$$= \frac{1}{3}x^3 + \frac{1}{2}x^2 + x + \frac{3}{5} \ln|5x-1| + C$$

$$f) \int \tan(x) dx = \int \frac{\sin(x)}{\cos(x)} dx$$

$$= \int \frac{1}{\cos(x)} \cdot \sin(x) dx = - \int \frac{1}{\cos(x)} (-\sin(x)) dx$$


$$= - \ln |\cos(x)| + C$$