

**MAT 130 - IMEUSP - Equações Diferenciais e Aplicações**  
**Primeiro semestre de 2024**  
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**Tabela de Primitivas**

1.  $\int c \, dx = cx + k$
2.  $\int x^\alpha \, dx = \frac{x^{\alpha+1}}{\alpha+1} + k, (\alpha \neq -1)$
3.  $\int e^x \, dx = e^x + k$
4.  $\int \frac{1}{x} \, dx = \ln |x| + k, x \neq 0$
5.  $\int \cos x \, dx = \text{sen } x + k$
6.  $\int \text{sen } x \, dx = -\cos x + k$
7.  $\int \sec^2 x \, dx = \text{tg } x + k$
8.  $\int \sec x \, \text{tg } x \, dx = \sec x + k$
9.  $\int \sec x \, dx = \ln |\sec x + \text{tg } x| + k$
10.  $\int \text{tg } x \, dx = \ln |\sec x| + k$
11.  $\int \frac{1}{1+x^2} \, dx = \text{arctg } x + k$
12.  $\int \frac{dx}{\sqrt{1-x^2}} = \text{arcsen } x + k$

**Fórmulas para Primitivas**

1.  $\int \frac{f'(x)}{f(x)} \, dx = \ln |f(x)| + k$
2.  $\int e^{f(x)} f'(x) \, dx = e^{f(x)} + k$
3.  $\int f(x)^\alpha f'(x) \, dx = \frac{f(x)^{\alpha+1}}{\alpha+1} + k, \alpha \neq -1$
4.  $\int [\cos f(x)] f'(x) \, dx = \text{sen } f(x) + k$