

## Cálculo A

### Integral definida

- $\int_{\pi/2}^{\pi} (\pi \sin x - 2x + \frac{5}{x^2} + 2\pi) dx$
- $\int_4^7 |x - 5| dx$
- $\int_{-3}^4 |-5x + 2| dx$
- $\int_0^{\pi/2} f(x) dx$  onde
$$f(x) = \begin{cases} \sec^2 x, & 0 \leq x \leq \pi/4 \\ \csc^2 x, & \pi/4 < x \leq \pi/2 \end{cases}$$
- $\int_4^1 \frac{\sqrt{1+\sqrt{x}}}{\sqrt{x}} dx$
- $\int_0^{\pi/4} \frac{\sin z}{\cos^2 z} dz$
- $\int_0^{\pi^2/16} \frac{1}{\sqrt{z}} \sec^2 \sqrt{z} dz$
- $\int_1^8 x^{-2/3} \sqrt{1+4x^{1/3}} dx$
- $\int_{-1}^2 \frac{t^2}{\sqrt{t+2}} dt$
- $\int_{\pi^3/8}^{\pi^3} \frac{\sin \sqrt[3]{x}}{x^{2/3}} dx$
- $\int_{-\pi/4}^{\pi/4} \sin 2x \cos 2x dx$
- $\int_0^{\pi/3} \sqrt{4 \sec x + 1} \sec x \tan x dx$
- $\int_0^1 \frac{dx}{1+x^2}$
- $\int_0^3 \frac{dx}{9+x^2}$
- $\int_1^2 \frac{dx}{x\sqrt{x^2-1}}$
- $\int_{3/2}^3 \frac{dx}{x\sqrt{4x^2-9}}$
- $\int_0^{1/2} \frac{dx}{\sqrt{1-x^2}}$
- $\int_0^4 \frac{dx}{\sqrt{16-x^2}}$
- $\int_0^1 \frac{e^x dx}{1+e^{2x}}$
- $\int_1^2 \frac{1}{2x+1} dx$

### Respostas

- $\pi + 5/\pi + \pi^2/4$
- $5/2$
- $613/10$
- $2$
- $\frac{2}{3}(2^{3/2} - 3^{3/2})$
- $\frac{3}{\sqrt{2}} - 1$
- $2$
- $\frac{1}{2}(27 - 5^{3/2})$
- $26/15$
- $3$
- $0$
- $\frac{1}{6}(27 - 5^{3/2})$
- $\frac{\pi}{4}$
- $\frac{\pi}{12}$
- $\frac{\pi}{3}$
- $\frac{\pi}{9}$
- $\frac{\pi}{6}$
- $\frac{\pi}{2}$
- $\arctan e - \frac{\pi}{4}$
- $\frac{1}{2} \ln \frac{5}{3}$