



(1) Calcule as integrais definidas:

(a) $\int_1^2 \frac{3}{t^4} dt$

(b) $\int_0^1 (u+2)(u-3) du$

(c) $\int_0^{\pi/4} \sec \theta \tan \theta d\theta$

(d) $\int_{-1}^1 e^{u+1} du$

(e) $\int_1^9 \frac{x-1}{\sqrt{x}} dx$

(f) $\int_0^1 x^e + e^x dx$

(g) $\int_0^\pi f(x) dx$, onde $f(x) = \begin{cases} \text{sen } x, & \text{se } 0 \leq x < \frac{\pi}{2} \\ \text{cos } x, & \text{se } \frac{\pi}{2} \leq x \leq \pi \end{cases}$

(2) Calcule as integrais indefinidas:

(a) $\int x^2 + x^{-2} dx$

(b) $\int (u+4)(2u+1) du$

(c) $\int \frac{x^2 - 2\sqrt{x}}{x} dx$

(d) $\int \frac{4+6u}{\sqrt{u}} du$

(e) $\int \sqrt{t}(1+t) dt$

(f) $\int |x-3| dx$