

EXERCÍCIOS:

1) Calcular:

a) $\int dx$	R: $x + c$	k) $\int \sqrt{x} dx$	R: $\frac{2x^{\frac{3}{2}}}{3} + c$
b) $\int x dx$	R: $\frac{x^2}{2} + c$	l) $\int \frac{dx}{\sqrt{x}}$	R: $2\sqrt{x} + c$
c) $\int x^3 dx$	R: $\frac{x^4}{4} + c$	m) $\int \frac{dx}{x^2}$	R: $-\frac{1}{x} + c$
d) $\int 2x^5 dx$	R: $\frac{x^6}{3} + c$	n) $\int (x + \sqrt{x}) dx$	R: $\frac{x^2}{2} + 2\frac{\sqrt{x^3}}{3} + c$
e) $\int (2x)^3 2 dx$	R: $4x^4 + c$	o) $\int \frac{x^4 + x^2 - 5}{x^2} dx$	R: $\frac{x^3}{3} + x - \frac{5}{x^2} + c$
f) $\int (3x)^2 3 dx$	R: $9x^3 + c$	p) $\int \frac{x^2 + 2x}{x} dx$	R: $\frac{x^2}{2} + 2x + c$
g) $\int x^{-3} dx$	R: $-\frac{1}{2x^2} + c$	q) $\int \frac{x^5 + 2x - 5}{x^4} dx$	R: $\frac{x^2}{2} - \frac{1}{x^2} + \frac{5}{3x^3} + c$
h) $\int (2x^3 - \frac{x^2}{2} + 5x) dx$	R: $\frac{2x^4}{4} - \frac{x^3}{6} + \frac{5x^2}{2} + c$		
i) $\int (\frac{x^4}{3} - 3x^2 - 1) dx$	R: $\frac{x^5}{15} - x^3 - x + c$		
j) $\int (x^2 + 1)^2 2x dx$	R: $\frac{x^6}{3} + x^4 + x^2 + c$ ou $\frac{(x^2 + 1)^3}{3} + c$		

2) Determine a integral e verifique sua resposta por derivação.

1. $\int x^7 dx$	2. $\int x^{3/5} dx$	3. $\int t^{1/2} dt$	4. $\int x^{-3} dx$
5. $\int 8^7 dx$	6. $\int 4e^x dx$	7. $\int t^{5/3} dt$	
8. $\int (2x^3 - 5x^{1/2} + 7x^{2/3}) dx$		9. $\int (-4x^{-4} - 5x^{3/2} + 7x^{4/5}) dx$	
10. $\int (2y^3 - 5y^{1/2} + 7y^{2/3}) dy$		11. $\int (et^3 - 5t^{1/2} + 10t^1) dt$	
12. $\int (\text{sen} x + \text{cos} x - 3e^x - 3\ln 2) dx$		13. $\int (\text{sen}^2 x + \text{cos}^2 x) dx$	
14. $\int (\text{sen}^2 x + \text{cos}^2 x - 1) dx = 0$		15. $\int [(1 + x^2)^{-1/2} + (1 + x^2)^{-1}] dx$	
16. $\int [-(1 + x^2)^{-1/2} + (1 + x^2)^{-1}] dx$		17. $\int (3x - 3)^2 dx$	
18. $\int [(2x - 5)^2 - (x - 3)^2] dx$		19. $\int (2x - 3)^3 dx$	
20. $\int (x + 1)^2 x^{-2} dx$		21. $\int (x^2 + 5x - 4) \cdot x^{-1/2} dx$	
22. $\int (2y^3 + 5y^{1/2} + 7y^{2/3}) dy$			