

Exercice 1. *Calculer les primitives suivantes:*

$$1) \int (3x^2 - 8x + 2) dx \quad 2) \int (\cos 2x) dx \quad 3) \int \frac{-3}{x+2} dx.$$

$$4) \int \frac{1}{(x+1)^4} dx. \quad 5) \int \frac{1}{x \ln x} dx. \quad 6) \int (2x+1)^{10} dx.$$

Exercice 2. *Calculer les primitives suivantes:*

$$\begin{array}{ll} 1) \int x e^x dx, & \int_0^1 x e^x dx. \\ 2) \int \frac{1}{(x-1)^5} dx, & \int_2^3 \frac{1}{(x-1)^5} dx. \\ 3) \int (\ln x) dx, & \int_0^e (\ln x) dx. \\ 4) \int \frac{dx}{3-2e^x}, & \int_0^1 \frac{dx}{3-2e^x}. \end{array}$$

Exercice 3. *Calculer*

$$1) \int \frac{1}{x^2-1} dx. \quad 2) \int \frac{x+4}{x^2+2x+5} dx.$$

Exercice 4. *Calculer*

$$\begin{array}{ll} 1) \int \cos^5 x \sin^2 x dx, & 2) \int \cos^6 x \sin^3 x dx. \\ 3) \int \sin^3 x \cos x dx, & 4) \int_0^\pi \sin^3 x \cos x dx \end{array}$$

Exercice 5. *Calculer*

$$\begin{array}{ll} 1) \int (\cos 5x) (\cos x) dx. & 2) \int (\sin 4x) (\cos 6x) dx. \\ 3) \int (\sin 3x) (\sin 2x) dx. & 4) \int (\cos^2 x) dx. \end{array}$$