

n° 79 p 181

$$I = \int_1^3 (3x^2 - 2x) dx$$

$$\forall x \in \mathbb{R} \quad f(x) = 3x^2 - 2x$$

$$F(x) = 3x \frac{1}{3} x^3 - 2x \frac{1}{2} x^2 + k, \quad k \in \mathbb{R}$$

$$F(x) = x^3 - x^2 + k, \quad k \in \mathbb{R}$$

$$I = F(3) - F(1)$$

$$I = 3^3 - 3^2 - 1^3 + 1^2$$

$$I = 18$$

$$J = \int_{-3}^0 x^2 dx$$

$$\forall x \in \mathbb{R} \quad g(x) = x^2$$

$$G(x) = \frac{x^3}{3} + k, \quad k \in \mathbb{R}$$

$$J = G(0) - G(-3)$$

$$J = \frac{0^3}{3} - \frac{(-3)^3}{3}$$

$$J = 9$$

$$K = \int_1^3 \frac{2}{x} dx$$

$$\forall x \in \mathbb{R} \quad h(x) = \frac{2}{x}$$

$$H(x) = 2 \ln x + k, \quad k \in \mathbb{R}$$

$$K = H(3) - H(1)$$

$$K = 2 \ln 3 - 2 \ln 1$$

$$K = 2 \ln 3$$