

CORRECTION

EXERCICE n°18 :

a. On a :

$$\int_0^3 (x-4) dx = \left[\frac{x^2}{2} - 4x \right]_0^3 = \frac{9}{2} - 12 = -\frac{15}{2}.$$

b. On a :

$$\int_1^2 \left(t - \frac{1}{t^2} \right) dt = \left[\frac{t^2}{2} + \frac{1}{t} \right]_1^2 = \left(\frac{4}{2} + \frac{1}{2} \right) - \left(\frac{1}{2} + 1 \right) = 1.$$

c. On a :

$$\int_{-2}^0 4t^3 dt = \left[t^4 \right]_{-2}^0 = 0 - (-2)^4 = -16.$$

d. On a :

$$\int_{0,5}^2 \left(2t - 1 + \frac{1}{t^2} \right) dt = \left[t^2 - t - \frac{1}{t} \right]_{0,5}^2 = \left(4 - 2 - \frac{1}{2} \right) - \left(\frac{1}{4} - \frac{1}{2} - 2 \right) = \frac{15}{4}.$$

e. On a :

$$\int_0^2 (0,03x^2 - 2x + 1) dx = \left[0,03 \times \frac{x^3}{3} - x^2 + x \right]_0^2 = \left[0,01x^3 - x^2 + x \right]_0^2 = 0,08 - 4 + 2 = -1,92.$$