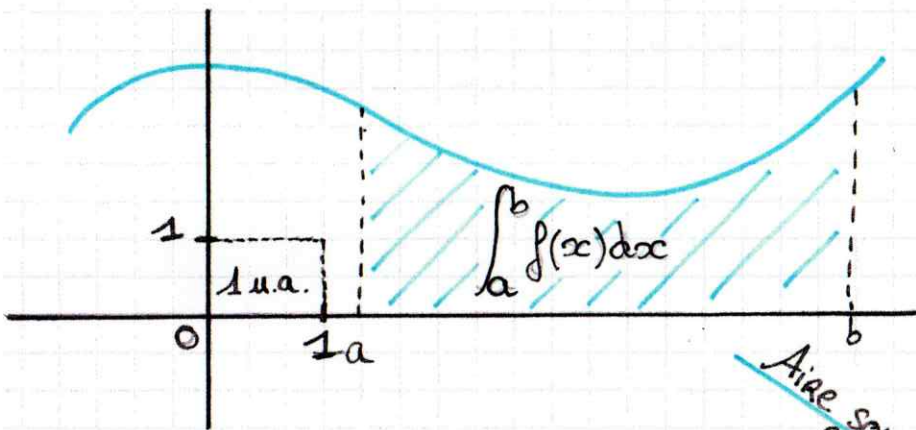
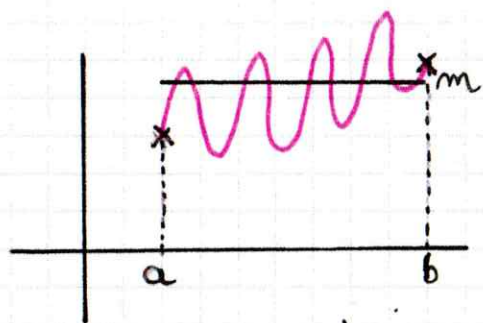




Aire sous la courbe

Calcul direct

$$\int_a^b f(x) dx = [F(x)]_a^b = F(b) - F(a)$$



$$m = \frac{1}{b-a} \int_a^b f(x) dx$$

Valeur moyenne

Intégrales

Intégration par parties

$$\int_a^b u'(x) v(x) dx = [u(x) v(x)]_a^b - \int_a^b u(x) v'(x) dx$$



PROPRIÉTÉS.

- ✱ $\int_a^b f(x) dx = - \int_b^a f(x) dx$
- ✱ $\int_a^a f(x) dx = 0$
- ✱ $\int_a^b k f(x) dx = k \int_a^b f(x) dx$
- ✱ $\int_a^b f(x) dx + \int_b^c f(x) dx = \int_a^c f(x) dx$
- ✱ $\int_a^b f(x) + g(x) dx = \int_a^b f(x) dx + \int_a^b g(x) dx$
- ✱ si $f(x) \geq 0$ alors $\int_a^b f(x) dx \geq 0$ et $a < b$
- ✱ si $f(x) \leq g(x)$ alors $\int_a^b f(x) dx \leq \int_a^b g(x) dx$ et $a < b$