

# INTEGRALES

**∫ ET AIRES**

$\int_a^b f(x) dx = +A1 - A2$

Domaine  $\begin{cases} a \leq x \leq b \\ 0 \leq y \leq f(x) \end{cases}$

⚠ U.A.

**CALCULER**

$$\int_a^b f(x) dx = \left[ \underset{\substack{\uparrow \\ \text{PRIMITIVE}}}{F(x)} \right]_a^b = F(b) - F(a)$$

TABLEAUX PRIMITIVES ♥  
 + tester ⚠  
 + corriger ⚠  
 si impossible ...

**PROPRIÉTÉS d'∫**

$$\int_a^b k f(t) dt = k \int_a^b f(t) dt$$

$$\int_a^b f(t) + g(t) dt = \int_a^b f(t) dt + \int_a^b g(t) dt$$

$$\int_a^b f(t) dt = - \int_b^a f(t) dt$$

CHASLES:  $\int_a^c f = \int_a^b f + \int_b^c f$

**IPP**

$$u(x) = \dots \quad u'(x) = \dots$$

$$v'(x) = \dots \quad v(x) = \dots$$

$$\int_a^b uv' = \left[ uv \right]_a^b - \int_a^b u'v$$

💡

**SIGNE/COMPAR**

Si  $f \geq 0$  ALORS  $\int_a^b f \geq 0$

Si  $f \leq 0$  ALORS  $\int_a^b f \leq 0$

Si  $f \geq g$  ALORS  $\int_a^b f \geq \int_a^b g$