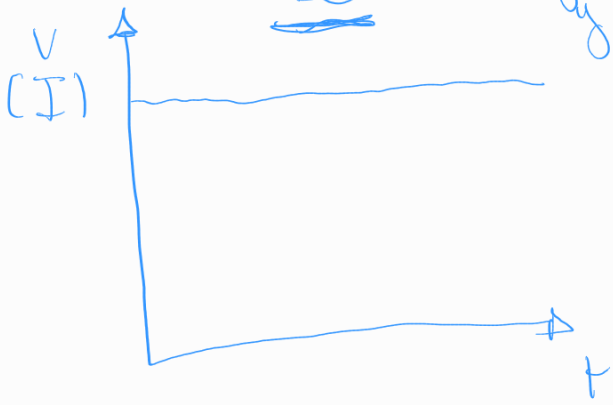
DC ---- Application Electronique

AC ∿ Transport, Electroménager

$f[Hz] \Leftrightarrow f(\frac{1}{s}) = \frac{1}{T[s]}$

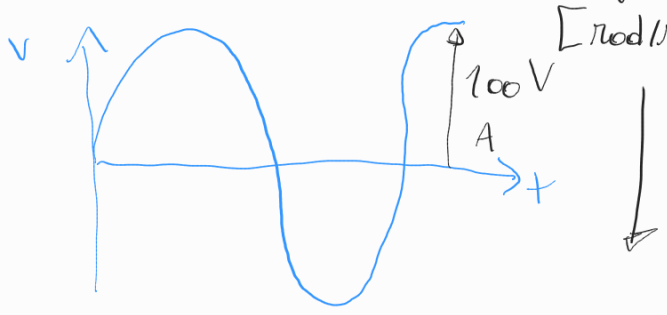
$A \sin(2\pi f t)$

DC → $f(x) = c$, $y = c$



AC → $f(t) = A \sin(\omega t)$

ω [rad/s]



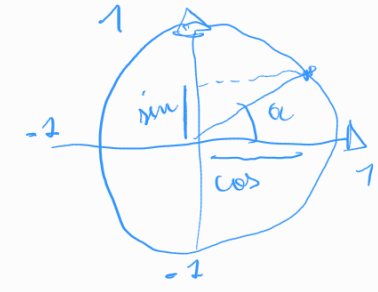
$\omega = 2\pi f$

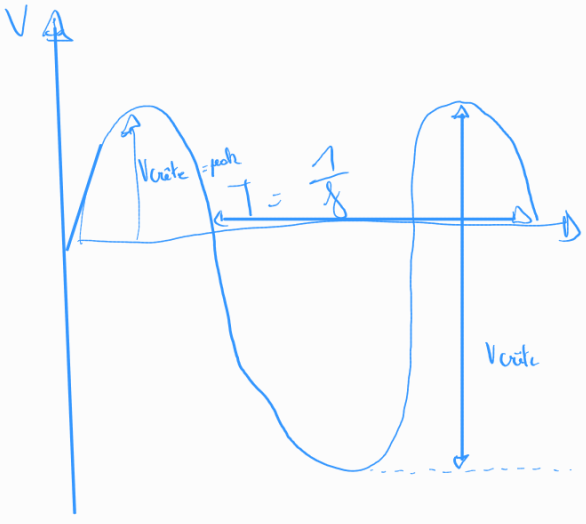
[rad/s] [1/s]

1 tour

Rappel:

1 tour
360°
2π rad





$P = U \cdot I$

$U = I \cdot R$

$I = U/R$

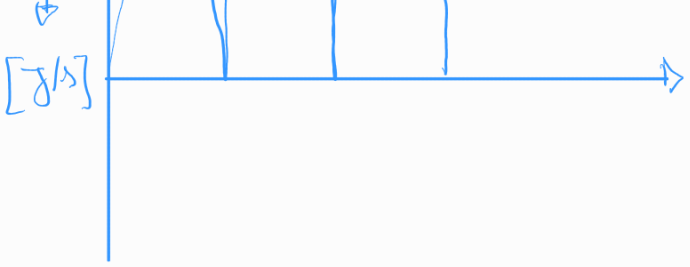
$= \frac{U^2}{R}$

$P_{(t)} = U_{(t)} \cdot I_{(t)}$

$P_{max} = V_{crête}^2 / R$

$N \to \infty$

$M_{moy} = \bar{V} = \frac{\sum V_i}{N}$



$$N \to \infty$$

$$\bar{V}(t) = \frac{\int_0^t V(t)\, dt}{t}$$

$V_{RMS} \Leftrightarrow V_{eff}$

Root mean Square

$$= \sqrt{\frac{\int_0^t V(t)^2\, dt}{t}}$$

$$V_{RMS} = \text{sinusoïde} \quad \sqrt{\frac{\int_0^T (V_{crête} \cdot \sin(2\pi f t))^2\, dt}{T}}$$

$$= \sqrt{\frac{V_{crête}^2}{t} \int_0^t \sin^2(2\pi f t)\, dt}$$

(ou w)

(sortir valeur fixe)

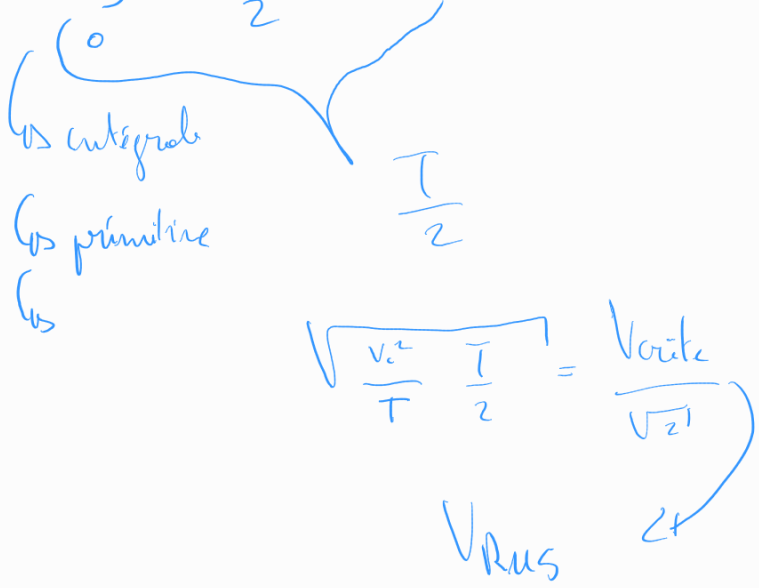
$$F(x) = \int x^2\, dx + c$$

$$x^2 = \frac{dF(x)}{dx}$$

$$(f^2(x))' = 2 f(x) \cdot f'(x)$$

$$1 = \cos^2(x) + \sin^2(x)$$

$$\int \frac{\cos(2t) + 1}{t}\, dt$$


0
T/2
↳ intégrale
↳ primitive
↳
T/2
$\sqrt{\frac{V_c^2}{T}\frac{T}{2}} = \frac{V_{crête}}{\sqrt{2}}$
V_{RMS}