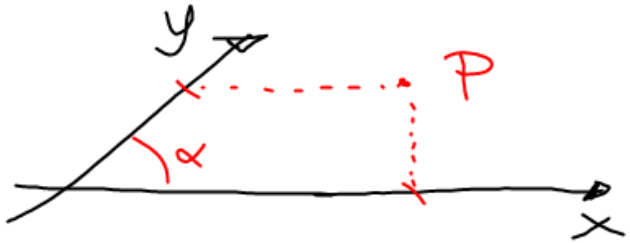
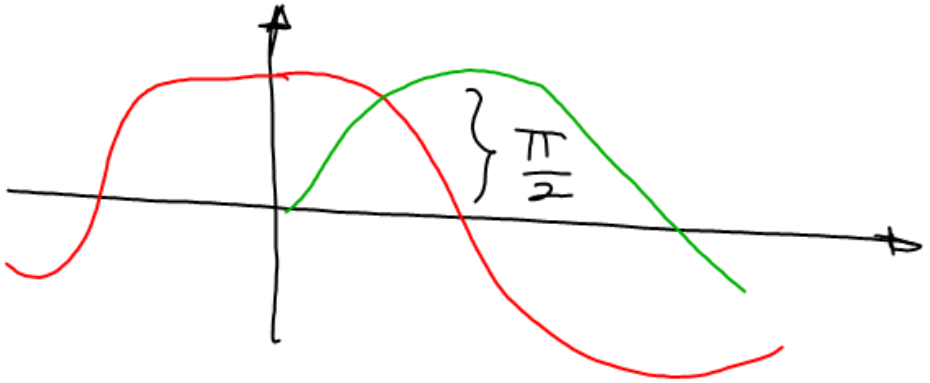
Serie Trigonométrid de Fourier

Teoría de los ejes cartesianos

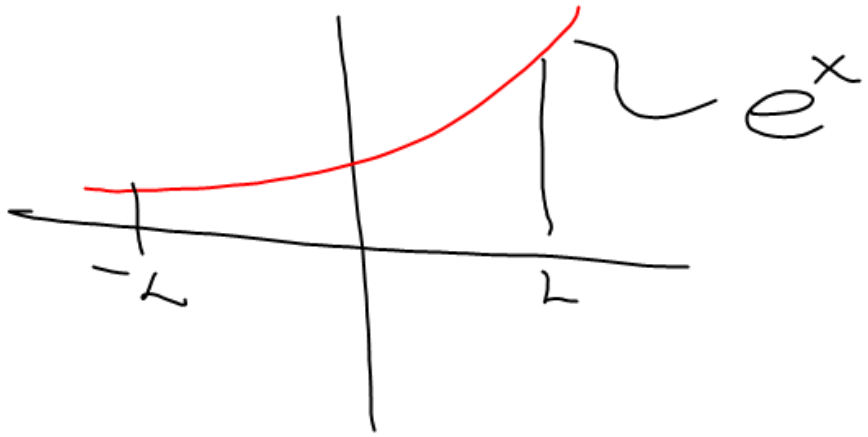


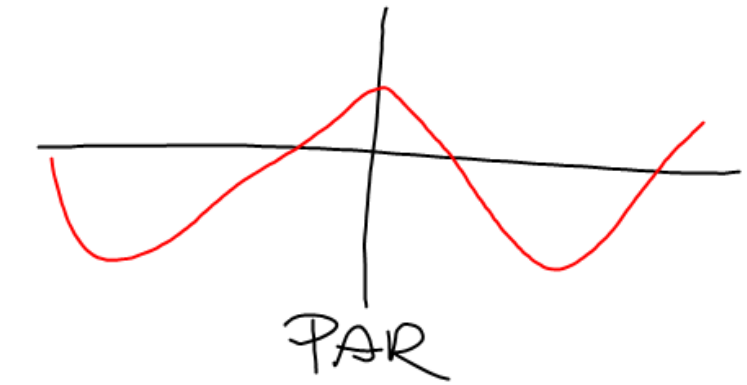
$P(x,y,\alpha)$

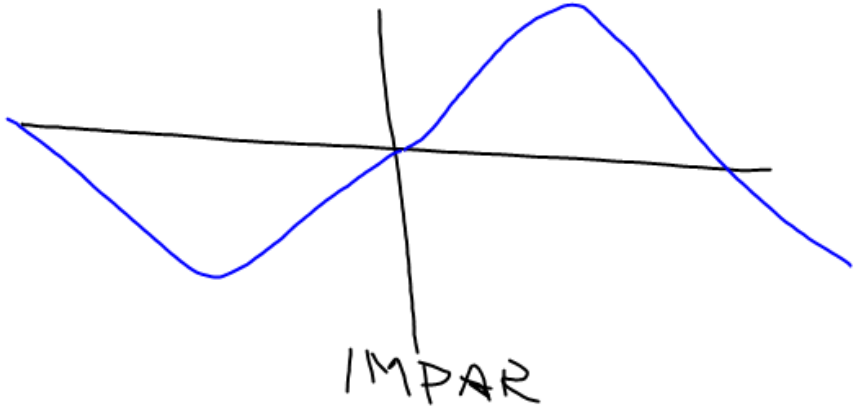
$P(x,y)$



$$f(x) = \frac{a_0}{2} + \sum_{n=1}^{\infty} \left(a_n \cos \frac{n\pi}{L} x + b_n \operatorname{sen} \frac{n\pi}{L} x \right)$$







$$\langle PAR\rangle\cdot\langle PAR\rangle=\langle PAR\rangle$$

$$\langle IMPAR\rangle\langle IMPAR\rangle=\langle PAR\rangle$$

$$\langle PAR\rangle\langle IMPAR\rangle=\langle IMPAR\rangle$$

$$\int_{-L}^{L}\langle PAR\rangle=2\int_{0}^{L}\langle PAR\rangle$$

$$\int_{-L}^{L}\langle IMPAR\rangle=0$$

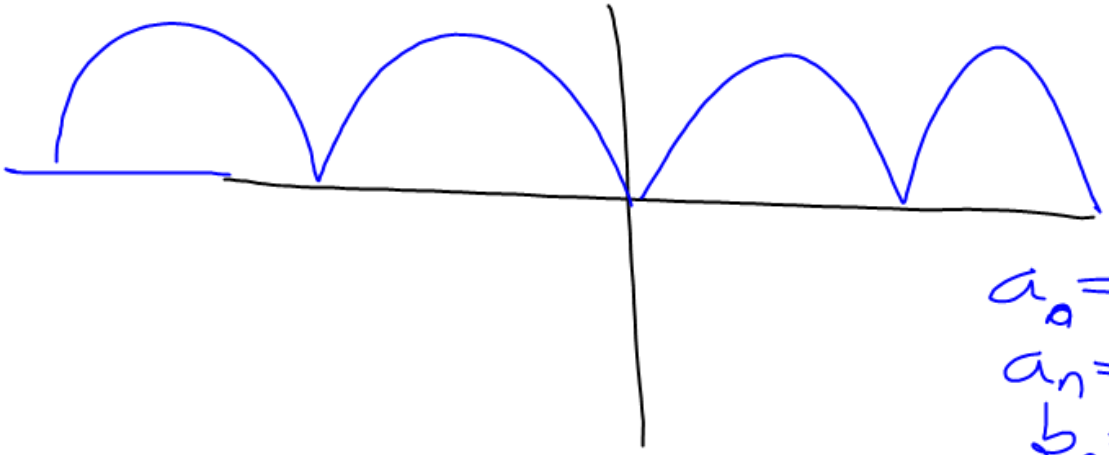
Obtener STR

IMPAR

$a_0 \neq 0$

$a_n \neq 0$

$b_n = 0$



$a_0 = 0$

$a_n = 0$

$b_n \neq 0$

$$a_0 = \frac{1}{L}\int_{-L}^{L} f(x)\,dx$$

$$a_n = \frac{1}{L}\int_{-L}^{L} f(x)\cos\left(\frac{n\pi}{L}x\right)dx$$

$$b_n = \frac{1}{L}\int_{-L}^{L} f(x)\,\mathrm{sen}\left(\frac{n\pi}{L}x\right)dx$$