1- MÍRALO EN EL MODELO G1.

2-

$$\beta = 10 \log \frac{I}{I_0}$$

NIVEL DE INTENSIDAD

$P = 30\ W$

$$I = P/S$$

$R_1 = 1\ m$

$R_2 = 100\ m$

$$\beta_2 - \beta_1 = 10 \log \frac{I_2}{I_0} - 10 \log \frac{I_1}{I_0} =$$

$$= 10 \left[\log I_2 - \log I_0 - \log I_1 + \log I_0 \right]$$

$$= 10 \log \frac{I_2}{I_1}$$

$$\frac{I_2}{I_1} = \frac{P/4\pi R_2^2}{P/4\pi R_1^2} = \frac{R_1^2}{R_2^2}$$

$$\frac{I_2}{I_1} = \frac{1^2}{(10^2)^2}$$

SE VE AFECTADA LA INTENSIDAD.

$$\frac{I_2}{I_1} = 10^{-4}$$

$$\beta_2 - \beta_1 \approx 10 \log 10^{-4}$$

$$\beta_2 - \beta_1 = -40\,dB$$

SE PIERDE NIVEL DE INTENSIDAD

3- F.O. → $y(t,x) = A \operatorname{Sen}(\omega t \pm kx + \varphi_0)$

PERIODICIDAD ESPACIAL

$$\boxed{y(t,x) = y(t, x + n\lambda)}$$

$$y(t, x+n\lambda) = A \operatorname{Sen}\left(\omega t \pm \frac{2\pi}{\lambda}(x+n\lambda) + \varphi_0\right) =$$

$$= A \operatorname{Sen}\left(\omega t \pm \frac{2\pi}{\lambda} x \boxed{\pm 2\pi n} + \varphi_0\right) =$$

↳ PERIODO DEL SENO

$$= y(x,t)$$

$$\operatorname{Sen} x = \operatorname{Sen}(2\pi + x)$$

$n = 0, 1, 2 \ldots$

$$\boxed{k = \frac{2\pi}{\lambda}}$$

PERIODICIDAD TEMPORAL

$$y(t,x) = y(t+nT, x)$$

$$T = \frac{2\pi}{W}$$

→ T. L. C. T.

4-

$$y(x,t) = 5\cos\left[\pi(3x - 100t + 1)\right] =$$

$$= 5\cos(3\pi x - 100\pi t + \pi)$$

$$y(x,t) = A\cos(kx - \omega t + \varphi_0)$$

+0X

a)

$\omega = 100\pi$ rad/s

$k = 3\pi$ m^{-1}

$A = 5$ m

$\varphi_0 = \pi$ rad

$$v = \lambda f = 33'3 \text{ m/s}$$

$$\lambda = \frac{2\pi}{k} = \frac{2}{3} \text{ m}$$

$$f = \frac{\omega}{2\pi} = 50 \text{ Hz}$$

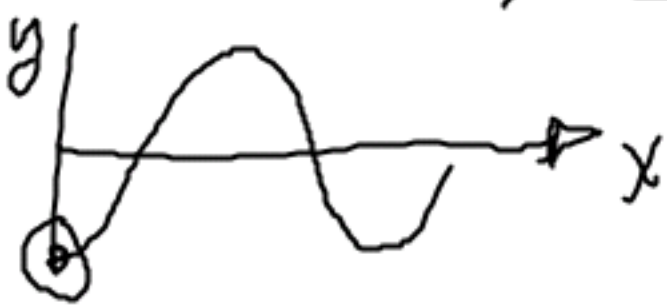
$$V(x,t) = \frac{\partial y}{\partial t} = -A\omega \underbrace{\operatorname{sen}(\omega t - kx + \varphi_0)}_{-1}$$

$$V_{max}(x,t) = A\omega = 500\pi = 1570{,}8 \text{ m/s}$$

b) $F(x=0) \Rightarrow$ $\boxed{y(0,t) = 5\cos(-100\pi t + \pi)\text{ m}}$

$t=0$ $\quad y(0,0) = 5\cos\pi = -5\text{ m}$ $\quad V(0,0) = 0$

$a_{máx}$



c) $\Delta\varphi = \omega \cdot \Delta t$ * $\boxed{\Delta\varphi = \pi \text{ rad}}$ OP. DE FASE

d) $\Delta\varphi = |K| \cdot \Delta x \Rightarrow \Delta x = \frac{1}{3} m = 0{,}33 m$