

Problema tyuor

- 1
- ENERGÍA = E $\left[\text{kg} \cdot \frac{\text{m}^2}{\text{s}^2} \right] \rightarrow \text{m} \cdot \frac{\text{L}^2}{\text{T}^2}$ (dim)
 - DENSIDAD = ρ $\left[\frac{\text{kg}}{\text{m}^3} \right] \rightarrow \frac{\text{m}}{\text{L}^3}$ (//)
 - TIEMPO = T [s] $\rightarrow$ T (//)
 - RADIO = R [m] $\rightarrow$ L (//)

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$$\dim(E) \neq \dim(\rho, T, R)$$

$$\dim(E) = \dim(\rho)^a \times \dim(T)^b \times \dim(R)^c$$

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$$\text{M} \cdot \frac{\text{L}^2}{\text{T}^2} = \frac{\text{M}}{\text{L}^3} \times \text{T} \times \text{L}$$

$$\text{M} \cdot \text{L}^2 \cdot \text{T}^{-2} = (\text{M} \cdot \text{L}^{-3})^a \times (\text{T})^b \times (\text{L})^c$$

$$\text{M}^1 \cdot \text{L}^2 \cdot \text{T}^{-2} = \text{M}^a \cdot \text{L}^{-3a} \times \text{T}^b \times \text{L}^c$$

$$\text{M}^1 \cdot \text{L}^2 \cdot \text{T}^{-2} = \text{M}^a \times \text{T}^b \times \text{L}^{-3a+c}$$

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$$\begin{aligned} \text{a. } \text{M}^1 &= \text{M}^a = \boxed{a=1} \\ \text{b. } \text{T}^{-2} &= \text{T}^b = \boxed{b=-2} \\ \text{c. } \text{L}^2 &= \text{L}^{-3a+c} \\ &= \text{L}^{-3 \cdot 1 + c} \\ &= \text{L}^{-3+c} \\ &= \text{L}^2 \Rightarrow \boxed{c=5} \end{aligned}$$

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$$E(\rho, T, R) \rightarrow E(\rho^1, T^{-2}, R^5)$$