UDS

Mi Universidad

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Nombre del tema: Problemario IV

Parcial: Cuarto parcial

Nombre de la Materia: Física I

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Problemario Unidad IV

Problema #1:

Datos:

$V = 900$ km/hr

$T = 0.8$ s

$d = 200$ mt

$$900 \frac{km}{hr} \cdot \frac{1000 \text{ MT}}{1 \text{ km}} \cdot \frac{1 \text{ Hr}}{3600 \text{ seg}}$$

$V = 250$ MT/seg $\quad T = \frac{200}{250} = 0.8$ seg

Problema #2:

$V1 = 40$ km/hr

$V2 = 60$ Km/hr

$V3 = 80$ Km/hr

$T = 3$ hr

$d = 180$ Km

$$d = \frac{40 + 60 + 80}{3} = \frac{180}{3} = V_p = 60 \text{ Km/hr}$$

$d = 180$ Km

Problema #3:

Datos:

$V = 90$ mill/hr

$d = 18$ MT

$T = 0.44$ S

$$90 \frac{\text{mill}}{\text{hr}} \cdot \frac{1 \text{ Mill}}{1609 \text{ MT}} \cdot \frac{3600 \text{ S}}{1 \text{ hr}} = 40.22 \text{ mt/s}$$

$T = \frac{18 \text{ MT}}{40.22} = 0.44$ seg

Problema #4:

Datos:

$d = 8,835,000$ MT

$T = 9.31$ hr

$V = 948.97$ km/hr

$$8,835,000 \text{ MT} \cdot \frac{1000 \text{ MT}}{1 \text{ Km}} = \frac{8,835}{9.31}$$

$V = 948.97$ km/hr

Problema #5:

Datos:

d = 8 Km

T = 12 min

$8\ Km \frac{1000\ MT}{1\ Km} = 8000\ MT =$ (11.1 MT/seg)

$12\ min \frac{1\ seg}{60\ min} = 720\ seg$

$11.1 \frac{MT}{s} \frac{1}{1000} \frac{Km}{MT} \frac{1\ hr}{3600\ s} =$ (39.96 km/hr)

Problema #6:

Datos:

Ti = 2 seg

TF = 4 seg

Vi = 2 mt/s

VF = 8 mt/s

$d = \frac{(8\ mt/s - 2\ mt/s)}{2} (4\ seg - 2\ seg)$

$= \frac{6\ MT/s}{2} = 3\ mt/s \times 2\ seg$

$= 6\ mt/s$

Problema #7:

Datos:

Vi = 8 mt/s

T = 3 seg

VF = 20 MT/s

$a = \frac{20\ mt/s - 8\ mt/s}{T = 3\ seg} = \frac{12\ mt/s}{3\ seg} =$ (4 mt)

$d = 3\ seg \times 4\ mt =$ (12 mt/s)

(a = 4 mt)

(d = 12 mt/s)

Problema #8:

Datos:

T = 4 seg

$a = 4\ mt/s^2$

Vi = 2 mt/s

VF = 22 mt/s

$VF = 2\ mt/s + (4\ mt/s^2)(4\ seg)$

$VF = 2\ mt/s + 20\ mt/s$

(VF = 22 mt/s)