

Examen Física 08/12/2020
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① Datos

850 km - 7 hr

s — 140 mts

$$\frac{850 \text{ km}}{7 \text{ hr}} = \frac{1000 \text{ m}}{1 \text{ km}} \cdot \frac{1 \text{ hr}}{3600 \text{ seg}}$$

$$v = 236.77 \text{ m/seg}$$

$$v = \frac{d}{t} \Rightarrow vt = d \Rightarrow t = \frac{d}{v}$$

$$t = \frac{140 \text{ m}}{236.77 \text{ m/s}} = \boxed{t = 0.592 \text{ m/s}}$$

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② Datos

40 60 80 km/hr

t = 4 hr

d = ?

$$v_p = \frac{40 + 60 + 80}{3} = 60 \text{ km/h}$$

$$d = vt = \frac{60 \text{ km}}{\text{hr}} \cdot \frac{4}{\text{hr}} = \boxed{440 \text{ km}}$$

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③ Datos
 10 mill/hr
 $t = ?$ s
 $d = 16$ mt

1 milla = 1.609 km
 10 milla = 16.09 km

$$V = \frac{16.09 \text{ km}}{1 \text{ hr}} \cdot \frac{1000 \text{ m}}{1 \text{ km}} \cdot \frac{1 \text{ hr}}{3600 \text{ seg}}$$

$$V = 4.46 \text{ mt/s}$$

$$t = \frac{16 \text{ mt}}{4.46} = 3.587 \text{ mt/s}$$

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⑤ Datos

$d = 8$ km
 $t = 12$ m
 $V =$ km/hr — mt/seg

$$t = 12 \text{ min} \cdot \frac{\text{hr}}{60 \text{ min}}$$

$$t = 0.2 \text{ Hr}$$

$$V = \frac{d}{t} = \frac{8 \text{ km}}{0.2 \text{ Hr}}$$

$$V = \frac{40 \text{ km}}{1 \text{ Hr}} \cdot \frac{1000 \text{ mt}}{1 \text{ km}} \cdot \frac{1 \text{ hr}}{3600 \text{ s}}$$

$$V = 11.11 \text{ mt/seg}$$

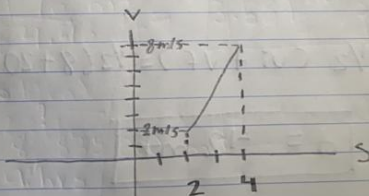
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⊕ Datos

$$\begin{aligned}t_i &= 2 \text{ seg} \\t_f &= 4 \text{ seg} \\v_i &= 2 \text{ m/s} \\v_f &= 8 \text{ m/s}\end{aligned}$$

$$a = \frac{\Delta v}{\Delta t} = \frac{v_f - v_i}{t_f - t_i} = \frac{8 \text{ m/s} - 2 \text{ m/s}}{4 \text{ s} - 2 \text{ s}}$$

$$a = 3 \text{ m/s}^2$$



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⊕ Datos

$$\begin{aligned}v_i &= 8 \text{ m/s} \\t &= 3 \text{ seg} \\v_f &= 20 \text{ m/s} \\a &= ? \\d &= ?\end{aligned}$$

$$a = \frac{v_f - v_i}{t} = \frac{20 \text{ m/s} - 8 \text{ m/s}}{3 \text{ seg}}$$

$$a = 4 \text{ m/s}^2$$

$$d = \frac{1}{2} (v_i + v_f) t = \frac{1}{2} (8 + 20) 3$$

$$d = 42 \text{ m}$$

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⑧ Datos

$$d = ?$$

$$t = 4 \text{ seg}$$

$$v_i = 2 \text{ m/s}$$

$$v_f = 4 \text{ m/s}$$

$$\frac{v_i + v_f}{2} t$$

$$\frac{2 \text{ m/s} + 4 \text{ m/s}}{2} = 3 \text{ m/s} \cdot 4 = 12 \text{ m/s}$$