

9-10-6.

ver

$$v_2 = 3v_1$$

$$t = t_1 + t_2 = \frac{2s}{3v_1} + \frac{s}{3v_2} \Rightarrow$$

$$= \frac{s(v_1 + 2v_2)}{3v_1 v_2}$$

$$v_{\text{ver}} = \frac{s}{\frac{s(v_1 + 2v_2)}{3v_1 v_2}} = \frac{3v_1 v_2}{v_1 + 2v_2} \Rightarrow$$

$$= \frac{3 \cdot 90 \cdot 15}{90 + 2 \cdot 15} = \frac{4050}{120} = 33,75 \text{ km/h}$$

Ambem: 33,75 km/h

2) Dano:

$$t_1 = 1 \text{ min}$$

$$t_2 = 3 \text{ min}$$

$$\frac{t_1 + t_2}{t}$$

85

Penenne:

$$e = (v_1 + v_2) t$$

$$t = \frac{t_1 + t_2}{t_1 + t_2} = \frac{1 + 3}{1 + 3} = \frac{3}{4} = 0,75 = 45 \text{ sek}$$

Ambem: 45 sek

3) Dano:

$$\mu = 10 \text{ kl}$$

$$c = 4200 \text{ Dne/kl}^{\text{oc}}$$

$$J = 340000 \text{ Dne/kl}$$

$$m = ?$$

Penenne:

$$Q_b = cm \Delta t$$

$$Q_n = 5 Q_b$$

$$m = \frac{Q_n}{c} = \frac{5 \mu \Delta t}{c} = \frac{5 \cdot 4200 \cdot 10 \Delta t}{340000} \Rightarrow$$

$$= 1,2 \text{ kl}$$

Ambem: 1,2 kl

85

5) Dano:

$$\frac{v_0 = 0}{h = ?}$$

Penenne:

$$m v_0 = (m + M) v = \frac{m v_0}{m + M}$$

$$(M + m) v^2 = (m + M) g h$$

$$h = \frac{v^2}{2g} = \left(\frac{m}{m + M} \right) \cdot \frac{v_0^2}{2g}$$

75

Ambem: $\frac{v^2}{2g}$