RATKAISUJA SUUREYHTÄLÖIHIN

(1) $v = \frac{s}{t} \mid \cdot t \rightarrow vt = s \mid :v \rightarrow \underline{t = \frac{s}{v}}$ (tämän voi päätellä suoraankin!)

(2) $E_k = \frac{1}{2}mv^2 \mid :(\frac{1}{2}m) \rightarrow \frac{E_k}{\frac{1}{2}m} = v^2 \rightarrow v^2 = \frac{2E_k}{m} \rightarrow \underline{v = \pm\sqrt{\frac{2E_k}{m}}}$

(3) $\frac{1}{2}mv^2 = mgh \mid :m \rightarrow \frac{1}{2}v^2 = gh \mid \cdot 2 \rightarrow v^2 = 2gh \rightarrow \underline{v = \pm\sqrt{2gh}}$

(4) $\frac{1}{2}mv^2 = mgh \mid :(mg) \rightarrow \frac{\frac{1}{2}mv^2}{mg} = h \rightarrow \underline{h = \frac{v^2}{2g}}$

(5) $P = \frac{W}{t} = \frac{\Delta E_p}{t} = \frac{mg\Delta h}{t} \mid \cdot t \rightarrow Pt = mg\Delta h \mid :P \rightarrow \underline{t = \frac{mg\Delta h}{P}}$

(6) $\eta = \frac{P_{anto}}{P_{otto}} \mid \cdot P_{otto} \rightarrow \eta \cdot P_{otto} = P_{anto} \rightarrow \underline{P_{anto} = \eta P_{otto}}$ (tai suoraan!)

(7) $l = l_0(1+\alpha\Delta t) \mid :l_0 \rightarrow \frac{l}{l_0} = 1+\alpha\Delta t \rightarrow \alpha\Delta t = \frac{l}{l_0} - 1 \mid :\alpha$

$\underline{\Delta t = \left(\frac{l}{l_0} - 1\right) : \alpha = \left(\frac{l-l_0}{l_0}\right) : \alpha = \frac{l-l_0}{\alpha l_0}}$

(8) $l = l_0(1+\alpha\Delta t) \mid :l_0 \rightarrow \frac{l}{l_0} = 1+\alpha\Delta t \mid :(1+\alpha\Delta t)$

$\frac{l}{1+\alpha\Delta t} = l_0 \rightarrow \underline{l_0 = \frac{l}{1+\alpha\Delta t}}$

(9) $\frac{P_1V_1}{T_1} = \frac{P_2V_2}{T_2} \rightarrow P_1V_1T_2 = P_2V_2T_1 \mid :(P_1V_1) \rightarrow \underline{T_2 = \frac{P_2V_2T_1}{P_1V_1}}$

(10) $pV = nRT \rightarrow pV = \frac{m}{M}RT \mid \cdot M \rightarrow pVM = mRT \mid :(RT)$

$n = \frac{m}{M}$

$\underline{m = \frac{pVM}{RT}}$