

$$1.1 \quad a) T \neq \sqrt{\frac{s}{T^2} \cdot s} \neq$$

$$b) t \neq s \cdot \sqrt{\frac{s}{T^2}}$$

$$c) T \neq \sqrt{\frac{s}{T^2} \cdot \frac{1}{s}} = \frac{1}{T}$$

$$d) T = \sqrt{\frac{s}{s} \cdot T^2} \quad \mathcal{R}$$

1.2 Energi + Energi \neq kraft

$$1.b \quad f = \frac{1}{T} = L^x \cdot \rho^y \cdot s^z = L^x \cdot \left(\frac{M}{L}\right)^y \cdot s^z$$

$$L \cdot \sqrt{L^y} \cdot L^x = L^0$$

$$L^x \cdot \left(\frac{M}{L}\right)^y \cdot \left(\frac{M \cdot L^2}{T^2}\right)^z = \frac{1}{T}$$

$$1 + \frac{1}{2} + x = 0$$

$$z = \frac{1}{2}, \quad y = -\frac{1}{2}, \quad x = -1$$

$$\text{svar: } f = \frac{1}{L} \cdot \frac{1}{\sqrt{\rho}} \cdot \sqrt{s} \cdot k$$

1.8

$$E = \frac{\text{energi}}{\text{massa}} = \frac{T^2}{S^2}$$

$$v = \frac{\text{sträcka}}{\text{sekund}} = \frac{S}{T}$$

$$q = \frac{\text{massa}}{\text{tid}} = \frac{M}{T}$$

$$g = \frac{\text{sträcka}}{(\text{tid})^2} = \frac{S}{T^2}$$

$$\eta = 1$$

$$\left(\frac{S^2}{T^2}\right)^x \left(\frac{S}{T}\right)^y \left(\frac{M}{T}\right)^z \left(\frac{S}{T^2}\right)^w = 1$$

$$z = 0$$

$$\begin{cases} 2x + y + w = 0 \\ 2x + y + w = 0 \end{cases} \Rightarrow w = 0$$

$$2x + y = 0$$

$$x = 1 \Rightarrow y = -2$$

$$\eta = \left(\frac{T}{S}\right)^2 \cdot \left(\frac{T}{S}\right)^2 = \boxed{\frac{T^4}{S^2}}$$