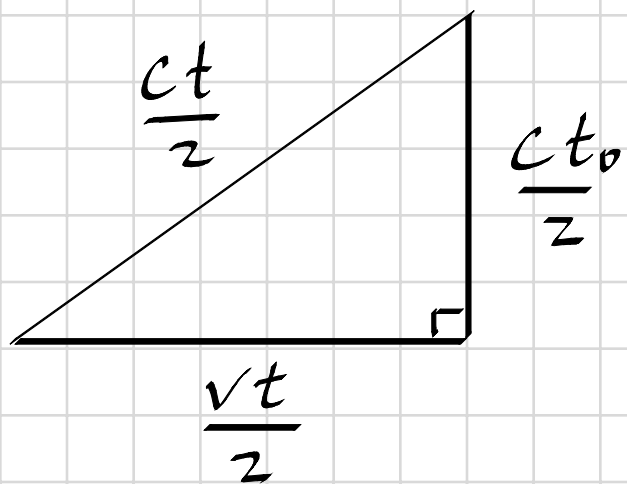
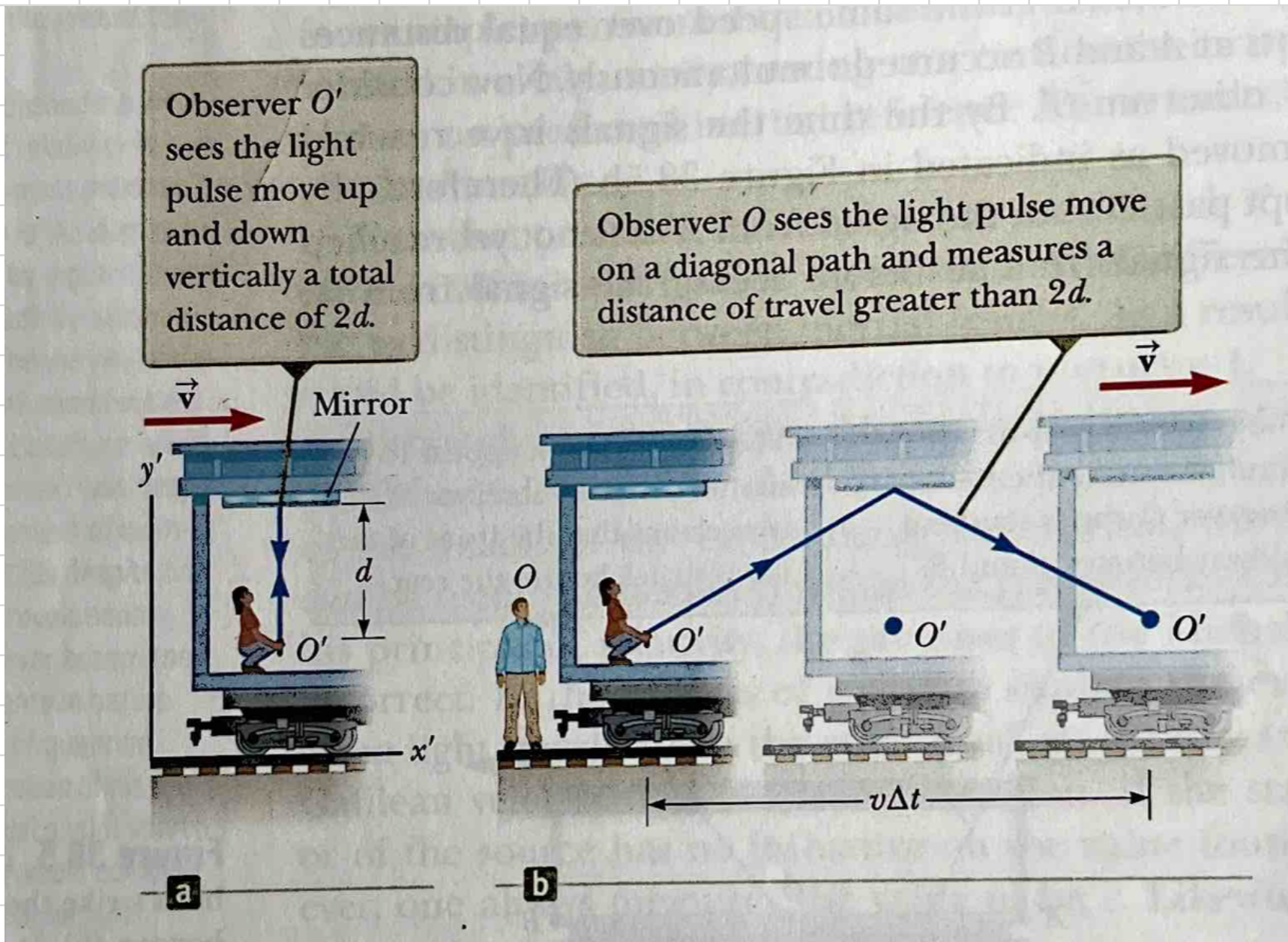


Relativistisk tid och rum



t = observatörens upplevda tid
 t_0 = resenärens upplevda tid
 l = observatörens upplevda längd
 l_0 = resenärens upplevda längd

$$\left(\frac{ct}{2}\right)^2 = \left(\frac{vt}{2}\right)^2 + \left(\frac{ct_0}{2}\right)^2$$

$$t^2(c^2 - v^2) = c^2 t_0^2$$

$$t = t_0 \cdot \frac{c}{\sqrt{c^2 - v^2}} = t_0 \cdot \frac{1}{\sqrt{1 - \frac{v^2}{c^2}}}$$

$$t = t_0 \cdot \gamma, \quad \gamma = \frac{1}{\sqrt{1 - \left(\frac{v}{c}\right)^2}}$$

c = konstant oberoende av referenssystem

$$c = \frac{l}{t} = \frac{l_0}{t_0}$$

$$l = l_0 \cdot \gamma, \quad \gamma = \frac{1}{\sqrt{1 - \left(\frac{v}{c}\right)^2}}$$