Δt_p : proper time $\Delta t > \Delta t_p$

$$\Delta t = \gamma \Delta t_p \qquad \gamma = \frac{1}{\sqrt{1 - \frac{v^2}{c^2}}} > 1$$

Δt: the observer that sees the two events happen at different positions

Δt_p: the observer that sees the two events happen at the same position

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Length Contraction:

$$L = \frac{L_p}{\gamma} \qquad L_p > L$$

L_p: proper length is measured by the observer who sees the two ends fixed

L: the observer that sees the two ends moving