

20. We refer to the solution of problem 18. We wish to adjust Δt so that

$$\Delta x' = 0 = \gamma(-720 \text{ m} - v\Delta t)$$

in the limiting case of $|v| \rightarrow c$. Thus,

$$\Delta t = \frac{720 \text{ m}}{2.998 \times 10^8 \text{ m/s}} = 2.40 \times 10^{-6} \text{ s} .$$