



## Problem Set 0

Mary Smith

January 2024

### 1 Favorite Equation

My favorite equation is the time dilation formula. This equation is given by

$$t = \frac{\tau}{\gamma}, \quad (1)$$



Nice!

where  $\gamma = \frac{1}{\sqrt{1 - \frac{v^2}{c^2}}}$ . This equation shows that clocks moving close to the speed of light tick slower. The time dilation formula is my favorite equation because it highlights the tricky, seemingly contradictory nature of special relativity. It seems very much not logical, however there is experimental evidence that Equation (1) accurately predicts reality.