F: Fastestest Function

Problem Author: Ragnar Groot Koerkamp

- **Problem:** Given that `foo` took $x\%$ of the total run time before optimizing and $y\%$ after, what is the factor of how much faster `foo` got?
- **Observation:** We can express this problem as the following equations:

$$\frac{\text{old time } \texttt{foo}}{\text{old time } \texttt{foo} + \text{other time}} = x\% \qquad \frac{\text{new time } \texttt{foo}}{\text{new time } \texttt{foo} + \text{other time}} = y\%$$

  Goal: Rewrite these equations to find $\frac{\text{old time } \texttt{foo}}{\text{new time } \texttt{foo}}$
- **Solution:**

$$\text{factor} = \frac{\text{old time } \texttt{foo}}{\text{new time } \texttt{foo}} = \frac{x \cdot (1-y)}{y \cdot (1-x)}$$