

Problem 17

A generation is about one-third of a lifetime. Approximately how many generations have passed since the year 0?

Solution

Assume the average lifetime for a human is over 50 years.

$$10^2 \text{ years} \approx \text{human lifetime}$$

Then the number of years in one generation is roughly

$$\text{One generation} \approx \frac{1}{3}(10^2 \text{ years}) \approx 0.3 \times 10^2 \text{ years} = 3 \times 10^{-1} \times 10^2 \text{ years} \approx 10^1 \text{ years.}$$

Assuming the current year is in the thousands, the number of generations that have passed since year 0 is

$$\# \text{ of generations} = \frac{\text{Current Year}}{\text{One generation}} \approx \frac{10^3 \text{ years}}{10^1 \text{ years}} = 10^2.$$