Problem 15

A fortnight is a charming English measure of time equal to 2.0 weeks (the word is a contraction of "fourteen nights"). That is a nice amount of time in pleasant company but perhaps a painful string of microseconds in unpleasant company. How many microseconds are in a fortnight?

[TYPO: Replace "contraction" with "portmanteau."]

Solution

Convert from fortnights to microseconds by using conversion factors.

$$1 \text{ fortnight} = 1 \text{ fortnight} \times \frac{2 \text{ weeks}}{1 \text{ fortnight}} \times \frac{7 \text{ days}}{1 \text{ week}} \times \frac{24 \text{ hours}}{1 \text{ day}} \times \frac{60 \text{ min}}{1 \text{ hour}} \times \frac{60 \text{ s}}{1 \text{ min}} \times \frac{10^6 \ \mu\text{s}}{1 \text{ s}}$$

$$\approx 1.21 \times 10^{12} \ \mu\text{s}$$