

Name: _____

Date: _____

Section C D F

Intro 2: Dimensional Analysis

1. Estimate the number of times your heart beats in a day.
2. Convert 6.2 miles into meters.
3. Express 162 μm in kilometers.
4. The speed limit on many German highways is 120 km/h, roughly 75 mph. Convert 120 kilometers per hour into meters per second.

5. If you were to shoot a laser beam into the infinity of space, how many kilometers would the laser travel in 8 hours? (Use the fact that the speed of the laser (speed of light) in a vacuum is about 3.00×10^8 m/s).
6. A billionaire offers to give you two options, he will give you 5 billion dollars OR 5 thousand dollars, but there is a catch! If you take the 5 billion, you have to count it out in \$1 bills, at 1 bill per second, and you do not receive the 5 billion dollars until you have counted ALL the money. Which would you choose? Figure out how long it would take to count out 5 billion dollars at one bill per second, allowing for approximately 10 hours a day for sleeping and eating.