

Algebra Workshop

Name: _____

Homework 9

1. (a) How many seconds are in a year (assume a year has 365 days)? Express your answer in scientific notation.

(b) According to the United States Department of Agriculture, Americans consume 127 chickens per second. How many chickens are eaten per year in the United States. Express your answer in scientific notation.

2. The current US debt is approximately 11.9 trillion dollars. The current population of the US is approximately 307,108,693. If the US debt is split evenly among the population, how much would each citizen owe? Express your answer in scientific notation.

3. The speed of light is 299,792,458 meters/second. If the sun is 1.5×10^{11} meters from earth, how long does it take light to reach the earth. Give your answer in minutes. (Recall that speed = distance/time.)

4. The Earth orbits the sun in an orbit that is approximately a circle with radius 1.5×10^8 km. Determine the area of this circle. Give your answer in scientific notation.

5. Eighteen grams of water contain Avogadro's number (6.02×10^{23}) of H_2O molecules. Determine the number of H_2O molecules in 1 gram of water. Express your answer in scientific notation.