

# **M/J Grade 8 Pre-Algebra Homework 8**

**Solve the problem; round using significant digits:**

**1. If the global debt is approximately  $2.7 \times 10^{13}$  dollars, and there are about  $7.8 \times 10^9$  people in the world, how much debt is there per person, on average?**

**2. Avogadro's number is  $6.022 \times 10^{23} \text{ mol}^{-1}$ . If a student has  $3.01 \times 10^{23}$  atoms of silver (Ag),**

**how many moles of silver do they have?**

**3. The DNA in a single human cell is about  $2 \times 10^{-9}$  meters long when uncoiled. If you lined up the DNA from all the cells in a human body end-to-end, how long would it be, given that the human body has approximately  $3.7 \times 10^{13}$  cells?**

**4. Earth's surface area is roughly  $5.1 \times 10^8$  km<sup>2</sup>. If the Sahara Desert covers an area of about  $9.2 \times 10^6$  km<sup>2</sup>, what fraction of the Earth's surface does it cover?**