Dimensional Analysis Introduction

*For each of the following write out all of your work using dimensional analysis,* ***correct scientific notation, and significant figures. SHOW ALL YOUR WORK FOR CREDIT.***

**Known Conversion Factors:**

1. How old are you in seconds?

2. If you are traveling 45 miles/hour, how many meters/second would your speed be?

**Conversion Factors found using the SI Metric Chart**

3. How many kilograms are 48 decigrams?

4. How many milliliters are there in 123.49 hectoliters

**Mixing known and Unknown Conversion Factors**

5. How many pints are in 12 milliliters?

6. How many miles is 67 meters?

7. A water tank leaks water at the rate of 3.9 mL/h. If the tank is not repaired, what volume of water in gallons will it leak in a year?  (0.2461 gallons = 1 liter) (5 points)

8. A clock gains 0.020 seconds/minute. How man seconds will the clock gain in exactly six months, assuming there are 30 days in each month.