**Scientific Notation and the Metric System**

1. The age of the universe is thought to be somewhere around 10 billion years.

Write this number of years in scientific notation.

1. Write the following numbers in full with a decimal point and correct number of zeros

a) 8.69 x 104

b) 7.1 x 103

c) 6.6 x 10-2

d) 8.76 x 10-5

1. Write the following numbers in scientific notation

a) 1156000 b) 218 c) 0.0068 d) 0.21

1. Perform each of the following mathematical operations
2. (2.6 x 105)(5.1 x 103)
3. (8.7 x 107)(6.3 x 10-9)
4. (2.5 x 108) / (5.5 x 10-2)
5. (4.2 x 10-5) / (7.3 x 10-6)
6. Which of the following is not an SI base quantity?

a) length b) mass c) weight d) time

1. Which of the following is the SI base unit of mass?

a) pound b) gram c) kilogram d) ton

1. Are the following statements reasonable (explain)

a) It took 300L of gasoline to fill up the car's tank

b) The center for the basketball team is 225cm tall

c) The area of the dorm room is 120 m2

1. Make the conversions below

15 cm = \_\_\_\_\_\_\_\_ mm 91 mm = \_\_\_\_\_\_\_\_\_ cm

1.4 m = \_\_\_\_\_\_\_\_\_ cm 0.02 dm = \_\_\_\_\_\_\_\_\_\_cm

0.119 L = \_\_\_\_\_\_\_\_\_\_mL 26800 mL = \_\_\_\_\_\_\_\_\_ L

5.4 kg = \_\_\_\_\_\_\_\_\_ mg 6 x 108 amps = \_\_\_\_\_\_\_\_\_\_\_Mamp

4 x 10-7g = \_\_\_\_\_\_\_\_\_ug 2 x 10-10 m = \_\_\_\_\_\_\_\_\_\_\_\_nm

3.8 Tg = \_\_\_\_\_\_\_\_\_\_\_g 3.7 pm = \_\_\_\_\_\_\_\_\_\_\_m

1. Express the following with appropriate metric prefixes

a) 106 volts b) 10-6 m c) 5 x 103 days d) 8 x 10-9 pieces

1. Write the following in their base unit in scientific notation

a) 86.6 mm b) 35 uV c) 860 mg

d) 600 picoseconds e)12.5 femtometers f) 250 gigavolts

1. How much money would you have if you earned a megadollar per year for 3 years?