Chemistry 51

Perform each of the appropriate problems with and without use of a calculator and compare your answers. Don't forget significant figures in your answers.

1. Convert each of the following quantities into scientific notation:

   a) 35,920,000

   b) 0.000 000 052 7

   c) 83,000,000,000

   d) 0.000 002 95

2. Perform each of the following calculations as indicated:

   a) $(3.15 \times 10^6)(6.3 \times 10^4) =$

   b) $\dfrac{5.32 \times 10^{-6}}{1.8 \times 10^{10}} =$

   c) $\dfrac{(6.35 \times 10^{13})(1.8 \times 10^{-3})}{(4.20 \times 10^7)} =$

   d) $(1.32 \times 10^{-5})(3.2 \times 10^4)^2 =$

   e) $\dfrac{(2.80 \times 10^4)(1.4 \times 10^{-3})^2}{7.12 \times 10^8} =$