CHEM120  
Nicola Burrmann  
Problem Set 1

Use the space below to answer each question. Where calculations are required, show your work for full credit. Credit will not be given if only a solution is written down without any accompanying work! The point values for each problem are given below in parentheses.

For all problems, express answers using the correct number of significant figures and round correctly to receive full credit.

1. Express each of the following numbers using proper scientific notation. (2 points)
   
   a. $94,000 = 9.4 \times 10^4$
   
   b. $0.00000305 = 3.05 \times 10^{-6}$

2. How many significant figures are present in each of the following numbers? (2 points)
   
   a. $0.0080800$ after written before $2$
   
   b. $1.00 \times 10^{-14}$
   
   $5$

3. Convert 959 degrees Fahrenheit to degrees Celsius. (2 points)
   
   $T_F = 1.8T_c + 32$
   
   $959^\circ F = 1.8T_c + 32$
   
   $515^\circ C = T_c$

4. Using only conversion factors based on the prefix modifiers and measured equalities learned in class, convert 29 weeks to days. (2 points)

   $1 \text{ week} = 7 \text{ days}$

   $29 \text{ wk} \left( \frac{7 \text{ d}}{1 \text{ wk}} \right) = 203 \text{ d} \Rightarrow 200 \text{ d} \Rightarrow 2.0 \times 10^2 \text{ d}$