Homework Set 2
(Distributed 9/7/16; Due on 9/14/16)

Finish Chapter 2 and read Chapter 3 in Zumdahl and complete the listed questions from the text: **Chapter 2: 75, 89, 91, 106; Chapter 3: 17, 29, 38, 49, 50;** as well as the following problems:

Please Show All of your Work and units.

A. What is the density of the sulfuric acid used in lead acid car batteries in grams per mL if a 5.000 mL sample has a mass of 9.272 g?

B. Solve the following temperature conversions:

(a) $-78°F =$ _____ $°C$ **(b)** $399 K =$ _____ $°C$

(c) $11°C =$ _____ K **(d)** $114 K =$ _____ $°C$

(e) $14°C =$ _____ $°F$

C. Characterize each of the following operations as either a chemical or a physical change:

      (a) fireworks exploding

      (b) toast burning

      (c) Breaking a glass window

D. Identify each of the substances listed as a gas, liquid or solid (G, L, S). Is it pure or a mixture? If it is a mixture, identify as either homogeneous or heterogeneous:

(i) black coffee   (ii) toothpaste

(iii) aluminum foil   (iv) baking soda

E. Blood is a heterogeneous mixture of red blood cells, white blood cells, plasma, platelets and other types of cells. What types of techniques can separate blood into its individual components?