Chemistry 115   Name_____
Dr. Cary Willard
Quiz 5A (20 points)   March 10, 2009

All work must be shown to receive credit. Avogadro's number 6.022×10^{23}/mol

1. (3 points) Calculate the molar mass of caffeine, ($C_8H_{10}N_4O_2$)

2. (3 points) Calculate the mass of 6.32 moles of caffeine.

3. (3 points) Calculate the number of moles of carbon in 5.29 moles of caffeine.

4. (3 points) Calculate the number of atoms of carbon in 3.50 mol of caffeine.

5. (3 points) Calculate the mass of 7.38×10^{18} molecules of caffeine.

6. (5 points) Determine the empirical formula of a compound that is composed of
    69.9% iron and 30.1% oxygen.

Chemistry 115   Name_____
Dr. Cary Willard
Quiz 5B (20 points)   March 10, 2009

All work must be shown to receive credit. Avogadro's number 6.022×10^{23}/mol

1. (3 points) Calculate the molar mass of caffeine, ($C_8H_{10}N_4O_2$)

2. (3 points) Calculate the mass of 5.77 moles of caffeine.

3. (3 points) Calculate the number of moles of carbon in 9.17 moles of caffeine.

4. (3 points) Calculate the number of atoms of carbon in 5.30 mol of caffeine.

5. (3 points) Calculate the mass of 8.47×10^{18} molecules of caffeine.

6. (5 points) Determine the empirical formula of a compound that is composed of
    72.4% iron and 27.6% oxygen.