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 x 1023/mol

1. (3 points) Calculate the molar mass of caffeine, (C8H10N4O2)
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 x 1018 molecules of caffeine.
6. (5 points) Determine the empirical formula of a compound that is composed of 69.9% iron and 30.1% oxygen.

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Quiz 5B (20 points) March 10, 2009

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1. (3 points) Calculate the molar mass of caffeine, (C8H10N4O2)
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 x 1018 molecules of caffeine.
6. (5 points) Determine the empirical formula of a compound that is composed of 72.4% iron and 27.6% oxygen.