Chemistry 115 - Name KEY

Dr. Cary Willard

Quiz 5A (20 points) October 8, 2008

All work must be shown to receive credit.

Avogadro’s number = 6.022 x 1023/mol

1. (4 points) How many grams of Fe2S3 will contain 7.28 x 1023 atoms of iron (Fe)?
2. (2 points) What are two indicators of a chemical reaction (ie they are evidence that a chemical reaction has taken place.)

* Permanent color change
* Temperature change
* Formation of a precipitate
* Formation of a gas

1. (6 points) Balance the following chemical reactions by inspection.
   1. Cu + 2 AgC2H3O2 🡪 Cu(C2H3O2)2 + 2 Ag
   2. N2 + 3 H2 🡪 2 NH3
2. (8 points) Answerthe following questions using the balanced reaction shown below:

4 FeS2 + 11 O2 🡪 2 Fe2O3 + 8 SO2

* 1. How many molecules of O2 are required to react with 8 formula units of FeS2
  2. How many moles of SO2 will be formed by the complete reaction of 55 moles of O2?

Chemistry 115 - Name KEY

Dr. Cary Willard

Quiz 5B (20 points) October 8, 2008

All work must be shown to receive credit.

Avogadro’s number = 6.022 x 1023/mol

1. (4 points) How many grams of Fe2S3 will contain 3.74 x 1023 atoms of iron (Fe)?
2. (2 points) What are two indicators of a chemical reaction (ie they are evidence that a chemical reaction has taken place.)

* Permanent color change
* Temperature change
* Formation of a precipitate
* Formation of a gas

1. (6 points) Balance the following chemical reactions by inspection.
   1. K2SO4 + Ba(OH)2 🡪 BaSO4 + 2 KOH
   2. 4 Co + 3 O2 🡪 2 Co2O3
2. (8 points) Answerthe following questions using the balanced reaction shown below:

4 FeS2 + 11 O2 🡪 2 Fe2O3 + 8 SO2

* 1. How many molecules of O2 are required to react with 20 formula units of FeS2
  2. How many moles of SO2 will be formed by the complete reaction of 77 moles of O2?