Chemistry 115 Name

Dr. Cary Willard

Quiz 6a (20 points) March 22, 2011

All work must be shown to receive credit. Avogadro’s number = 6.022 x 1023/mol

Iron oxide ore is converted to iron metal in a reaction with carbon.

2 Fe2O3(s) + 3 C(s) 🡪 4 Fe(s) + 3 CO2(g)

1. (4 points) How many atoms of iron will be formed from the reaction of 48 atoms of carbon with excess iron oxide?
2. (4 points) How many moles of carbon are required to react with 8.35 moles of iron oxide?
3. (4 points) How many grams of carbon dioxide will produced by the reaction of 0.183 moles of iron oxide?
4. (4 points) How many grams of iron oxide are required to produce 50.0 grams of elemental iron?
5. (4 points) How many molecules of carbon dioxide will be produced from the reaction of 5.83 moles of iron oxide with excess carbon?

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Quiz 6b (20 points) March 22, 2011

All work must be shown to receive credit. Avogadro’s number = 6.022 x 1023/mol

Iron oxide ore is converted to iron metal in a reaction with carbon.

2 Fe2O3(s) + 3 C(s) 🡪 4 Fe(s) + 3 CO2(g)

1. (4 points) How many atoms of iron will be formed from the reaction of 33 atoms of carbon with excess iron oxide?
2. (4 points) How many moles of carbon are required to react with 5.95 moles of iron oxide?
3. (4 points) How many grams of carbon dioxide will produced by the reaction of 0.216 moles of iron oxide?
4. (4 points) How many grams of iron oxide are required to produce 60.0 grams of elemental iron?
5. (4 points) How many molecules of carbon dioxide will be produced from the reaction of 7.26 moles of iron oxide with excess carbon?

Chemistry 115 Name

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Quiz 6c (20 points) March 24, 2011

All work must be shown to receive credit. Avogadro’s number = 6.022 x 1023/mol

Iron oxide ore is converted to iron metal in a reaction with carbon.

2 Fe2O3(s) + 3 C(s) 🡪 4 Fe(s) + 3 CO2(g)

1. (4 points) How many atoms of carbon are required to react with 62 formula units of iron oxide?
2. (4 points) How many moles of carbon dioxide will be formed by the reaction of 7.51 moles of iron oxide with excess carbon?
3. (4 points) If 94.2 grams of iron oxide react with excess carbon, how many moles or carbon dioxide will be produced?
4. (4 points) How many grams of carbon are required to produce 50.0 grams of elemental iron?
5. (4 points) How many moles of iron oxide will form 8.24 x 1023 molecules of carbon dioxide?

Chemistry 115 Name

Dr. Cary Willard

Quiz 6d (20 points) March 24, 2011

All work must be shown to receive credit. Avogadro’s number = 6.022 x 1023/mol

Iron oxide ore is converted to iron metal in a reaction with carbon.

2 Fe2O3(s) + 3 C(s) 🡪 4 Fe(s) + 3 CO2(g)

1. (4 points) How many atoms of carbon are required to react with 56 formula units of iron oxide?
2. (4 points) How many moles of carbon dioxide will be formed by the reaction of 6.83 moles of iron oxide with excess carbon?
3. (4 points) If 71.5 grams of iron oxide react with excess carbon, how many moles or carbon dioxide will be produced?
4. (4 points) How many grams of carbon are required to produce 60.0 grams of elemental iron?
5. (4 points) How many moles of iron oxide will form 4.97 x 1023 molecules of carbon dioxide?