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| **Chemistry 11**  **Gram A 🡪 Gram B** | Name: Date:  Block: |

1. Given the following equation for the combustion of hexane (C6H14):

C6H14 + O2 🡪 CO2 + H2O

1. What is the balanced equation?
2. What mass of CO2 is produced by burning 268 g of C6H14?
3. What mass of oxygen is consumed when 3.00 kg of hexane reacts?
4. If burning a quantity of hexane produces 78.0 grams of H2O, what mass of CO2 would be produced at the same time?
5. Carbon dioxide is a greenhouse gas. What mass of carbon dioxide is produced by burning 20.0 moles of hexane?

2. The balanced equation for hexamine combustion is:

4 C6H15N + 43 O2 🡪 24 CO2 + 30 H2O + 4 NO2

1. Calculate the molar mass for each compound.
2. What mass of oxygen is required to react with 763.2 g of C6H15N?
3. Calculate the mass of water produced when 253 g of O2 are consumed.
4. A reaction between potassium and chlorine produced 250.0 grams of the product. How many grams of potassium and chlorine were needed for the reaction?
5. Aluminum reacts with Fe2O3 to give aluminum oxideand iron. If 40.2 g of iron are produced, find the masses of the other chemicals involved.
6. Sulphur and oxygen react together to produce SO2. If 356 g of SO2 is produced, find the masses of the two reactants.
7. When isopropanol (C3H8O) burns in oxygen, carbon dioxide and water are produced. Determine how many grams of carbon dioxide and water are produced when 5682 kg of isopropanol is burned.

1b. 821g 1c. 1.06x104g 1d. 163g 1e. 5.28x103g 2a. 101.22g/mol, 32.00g/mol, 44.01g/mol, 18.02g/mol, 46.01g/mol 2b. 2594g

2c. 99.4g 3. 131.1g K, 118.9g Cl2 4. 19.4g Al, 57.5g Fe2O3, 36.7g Al2O3 5. 178g S8, 178g O2 6. 1.248x104kg CO2, 6813kg H2O