Gram A → Gram B

1. The balanced equation for hexamine combustion is:

$$4 \, C_6H_{15}N + 43 \, O_2 \rightarrow 24 \, CO_2 + 30 \, H_2O + 4 \, NO_2$$

a) Calculate the molar mass for each compound.

b) What mass of oxygen is required to react with 763.2 g of $C_6H_{15}N$?

c) Calculate the mass of water produced when 253 g of O_2 are consumed.

2. 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?

3. Given the following equation for the combustion of hexane (C_6H_{14}):

$$C_6H_{14} + O_2 \rightarrow CO_2 + H_2O$$
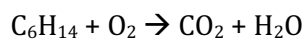
a) What is the balanced equation? *(Hint: use the algebraic method)*

b) What mass of CO_2 is produced by burning 268 g of C_6H_{14}?

c) What mass of oxygen is consumed when 3.00 kg of hexane reacts?

d) If burning a quantity of hexane produces 78.0 grams of H_2O, what mass of CO_2 would be produced at the same time?

e) Carbon dioxide is a greenhouse gas. What mass of carbon dioxide is produced by burning 20.0 moles of hexane?