Quiz: 4.1–4.4 (A)

Name_____

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

1) If the percent yield for the following reaction is 65.0%, how many grams of $KClO_3$ are needed to produce 32.0 g of O_2? 1) _____

$$2\ KClO_3(s) \rightarrow 2\ KCl(s) + 3\ O_2(g)$$

2) Calcium oxide reacts with water in a combination reaction to produce calcium hydroxide: 2) _____

$$CaO(s) + H_2O(l) \rightarrow Ca(OH)_2(s)$$

A 4.50–g sample of CaO is reacted with 4.34 g of H_2O. How many grams of water remain after the reaction is complete?

3) When 11.0 g of calcium metal is reacted with water, 5.00 g of calcium hydroxide is produced. Using the following balanced equation, calculate the percent yield for the reaction? 3) _____

$$Ca(s) + 2\ H_2O(l) \rightarrow Ca(OH)_2(aq) + H_2(g)$$

4) A student prepared a stock solution by dissolving 10.0 g of KOH in enough water to make 150. mL of solution. She then took 15.0 mL of the stock solution and diluted it with enough water to make water to make 65.0 mL of a final solution. What is the concentration of KOH for the final solution? 4) _____

5) How would the concentration change if a 1.0 L flask of 1.0 M NaCl were left uncapped on a laboratory bench for several days. Why? 5) _____

1) 126 g
2) 2.90
3) 24.6%
4) 0.274 M
5) The concentration would slowly increase as water from the solution evaporated. This is because the amount of NaCl in the flask would remain constant while the amount of water decreases.