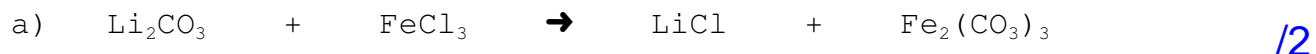


/95 = %

Name: \_\_\_\_\_

**SCH 4C**  
**Stoichiometry Unit Test**

1. Balance the following equations



2. Perform each unit conversion. Be sure to use complete and extended units:

a) convert 72.9 g of  $\text{NH}_3$  to number of molecules of  $\text{NH}_3$

/5

b) convert  $8.79 \times 10^{24}$  H atoms to the equivalent mass of  $\text{CH}_4$

/7

3. What mass of strontium nitrate is required to form 890.0 g of strontium phosphate?



/8

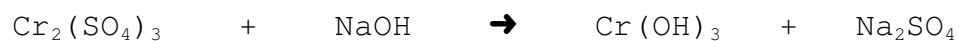
/22

4. What amount of sodium carbonate is require to form 450.0 g of iron(III) carbonate



/6

5. What is the maximum possible mass of chromium(III) hydroxide that can form from 40.0 g of chromium(III) sulphate and 22.0 g of sodium hydroxide



/16

/22

6. Determine the concentration of each of the following solutions:

a) 550 mL of a solution that contains 0.025 mol of HCl

/5

b) 750 mL of a solution that contains 0.025 g of HCl

/7

c) 4.0 L of a solution of sulphuric acid made through the dilution of 25 mL of 12.0 M  $\text{H}_2\text{SO}_4$

/4

/16

7. Determine the mass of  $\text{Na}_2\text{CO}_3$  required to make 4.0 L of 0.1 M sodium carbonate solution.

/6

8. Determine the concentration of solution that would result if 45.0 g of  $\text{NaHCO}_3$  is dissolved in 1.0 L of water. What will this concentration become if 4.0 L of water is added?

/11

/17

9. What is the maximum possible amount of lead(II) iodide precipitate that could form from the reaction of 500 mL of 0.25 M lead(II) nitrate mixed with 400 mL of 0.30 M potassium iodide?



/18

BONUS: Determine the concentration of potassium ion in p.p.m. for 250 mL of solution that contains a mass of 0.0015 g of  $\text{K}_2\text{CO}_3$

/5

/18