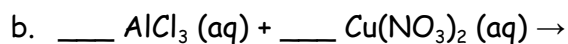
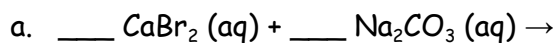


Section 4C Notes

Name: _____

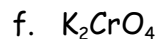
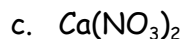
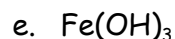
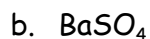
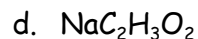
Part 1: Double Replacement Reactions

1. What happens in a double replacement reaction?
2. Complete and balance the following double replacement reactions:



Part 2: Solubility Rules

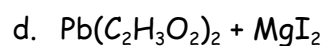
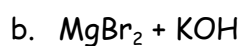
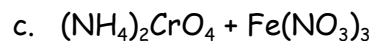
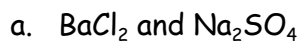
3. What are solubility rules?
4. For the following compounds, predict whether they would be soluble or insoluble in water. Identify the rule.



Part 3: Precipitation Reactions

5. Define precipitate.
6. Define spectator ions.

7. Explain the difference between full equations and net equations.
8. For the following combinations of ionic compound solutions, determine the precipitate and write a net ionic equation:



Part 4: Acids and Bases

9. When acids are added to water, what is released?
10. When bases are added to water, what is released?

11. Complete the table:

Property	Acid	Base		Property	Acid	Base
Taste?				Conductivity?		
Touch?				Reaction with Baking Soda?		
Reaction with metal?				Color w/ Universal Indicator?		
How does it feel?				Color w/ Phenolphthalein Indicator?		

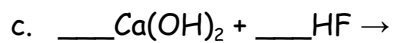
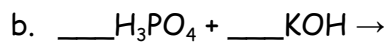
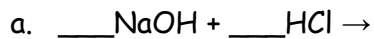
12. How can you recognize the formulas of most acids?
13. How can you recognize the formulas of most bases?

Part 5: Neutralization

14. What happens when equal amounts of acid and base are added together?

15. What are the products of a neutralization reaction?

16. Balance the following neutralization reactions:



Part 6: Titration

17. What is a titration? List the steps of the process.

18. What is the equation for a titration?

19. An unknown concentration acid is titrated with 4% NaOH. 20 mL of the unknown acid is titrated to neutral with 15 mL of the 4% NaOH. What is the concentration of the unknown acid?

Part 7: pH

20. What does pH stand for?

21. What is the pH of a solution with $0.000\ 000\ 01\ \text{mol H}^+$ per liter?

22. How many times more basic is a solution with a pH of 11 than one with a pH of 9?

23. What should the pH of our drinking water be?

Part 8: Buffers

24. Define buffers.

25. What do buffers consist of?

26. What happens to the pH of water when a small amount of acid is added to it?

27. If a buffer is in a solution, what will happen to the pH when a small amount of acid is added?