**MSC Acid-Base Reactions** Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Complete the following reactions.
2. \_\_\_HNO3 + \_\_\_H2O→
3. \_\_\_CH3COOH + \_\_\_H2O→

c. \_\_\_Cu + \_\_\_ HNO3→

d. \_\_\_Al + \_\_\_HCl→

1. Complete the following reactions of bases with water.
2. \_\_\_NH3 +\_\_\_ H2O→
3. \_\_\_CH3NH2 + \_\_\_H2O→
4. Write the balanced equations for the following reactions.
5. \_\_\_KOH + \_\_\_ HCl →
6. \_\_\_Li2CO3 + \_\_\_ HCl→
7. \_\_\_NaOH + \_\_\_H3PO4 →
8. \_\_\_CuCO3 + \_\_\_HNO3 →
9. \_\_\_HC2H3O2 + \_\_\_NaOH →
10. \_\_\_Na2CO3 + \_\_\_ HC2H3O2 →
11. \_\_\_Ca(OH)2 + \_\_\_HC7H5O2 →
12. For each of the following salts, determine which acid and based formed it.

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| **Salt** | **Acid** | **Base** |
| Zn(NO3)2 |  |  |
| Al(ClO)3 |  |  |
| NaCl |  |  |
| Ca3(PO4)2 |  |  |
| (NH4)2C2O­4 |  |  |

1. How many moles of calcium hydroxide, Ca(OH)2 are needed to neutralize 2.50 moles of hydrochloric acid?
2. How many grams of HCl are needed to neutralize 40.0 grams of NaOH?
3. How many grams of NaOH are needed to neutralize 20.0 grams of H3PO4?
4. How many grams of CO2 will be produced if 40.0 grams of Na2CO3 reacts with excess HCl?
5. How many grams of nitric acid are needed to completely neutralize 50.0 grams of calcium carbonate?
6. How many grams of magnesium carbonate and are needed to completely neutralize 19.6 grams of phosphoric acid?