

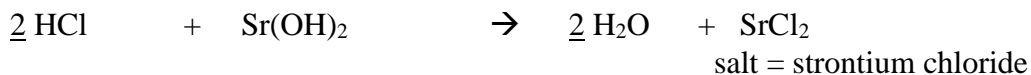
## ACIDS, BASES, AND NEUTRALIZATION REACTIONS

### Neutralization Reactions “ACID + BASE → WATER + SALT”

- a) Write and balance these double displacement reactions.  $AB + CD \rightarrow AD + CB$
- If the formula is not provided, you must “crisscross” to get it.
  - Remember, to get the products, you must “un-crisscross” and “re-crisscross” the reactant ions. If you can do that mentally, you do not have to show your crisscross work.
- b) All salts must be named. Use the complete polyatomic ion list if needed.
- c) For #3 and #20: borate =  $(\text{BO}_3)^{3-}$
- d) For #10: oxalate =  $(\text{C}_2\text{O}_4)^{2-}$

**EXAMPLE:**

hydrochloric acid + strontium hydroxide → \_\_\_\_\_ + \_\_\_\_\_



- 1) acetic acid + sodium hydroxide → \_\_\_\_\_ + \_\_\_\_\_
- 2)  $\text{HNO}_2$  + calcium hydroxide → \_\_\_\_\_ + \_\_\_\_\_
- 3)  $\text{H}_3\text{BO}_3$  + barium hydroxide → \_\_\_\_\_ + \_\_\_\_\_
- 4)  $\text{HClO}_2$  + strontium hydroxide → \_\_\_\_\_ + \_\_\_\_\_
- 5) hydrochloric acid + sodium hydroxide → \_\_\_\_\_ + \_\_\_\_\_
- 6)  $\text{HCN}$  + aluminum hydroxide → \_\_\_\_\_ + \_\_\_\_\_
- 7) sulfuric acid + potassium hydroxide → \_\_\_\_\_ + \_\_\_\_\_
- 8)  $\text{HBr}$  + calcium hydroxide → \_\_\_\_\_ + \_\_\_\_\_
- 9) nitric acid + lithium hydroxide → \_\_\_\_\_ + \_\_\_\_\_
- 10)  $\text{H}_2\text{C}_2\text{O}_4$  + barium hydroxide → \_\_\_\_\_ + \_\_\_\_\_
- 11)  $\text{HClO}_4$  + sodium hydroxide → \_\_\_\_\_ + \_\_\_\_\_
- 12)  $\text{H}_2\text{SO}_3$  + potassium hydroxide → \_\_\_\_\_ + \_\_\_\_\_
- 13)  $\text{HF}$  + strontium hydroxide → \_\_\_\_\_ + \_\_\_\_\_
- 14)  $\text{HClO}$  + aluminum hydroxide → \_\_\_\_\_ + \_\_\_\_\_
- 15)  $\text{HMnO}_4$  + lithium hydroxide → \_\_\_\_\_ + \_\_\_\_\_
- 16)  $\text{HClO}_3$  + barium hydroxide → \_\_\_\_\_ + \_\_\_\_\_
- 17)  $\text{HI}$  + potassium hydroxide → \_\_\_\_\_ + \_\_\_\_\_
- 18) phosphoric acid + calcium hydroxide → \_\_\_\_\_ + \_\_\_\_\_
- 19)  $\text{H}_2\text{S}$  + aluminum hydroxide → \_\_\_\_\_ + \_\_\_\_\_
- 20)  $\text{H}_3\text{BO}_3$  + aluminum hydroxide → \_\_\_\_\_ + \_\_\_\_\_