## **Double Displacement Reactions**

Indicate which of the following double displacement reactions will go to completion, and circle what the product of the reaction will be (if any). You may want to consult a list of  $K_{sp}$  values to solve these problems.

Will this reaction occur? \_\_\_\_\_

2) 
$$\longrightarrow$$
 Pb(NO<sub>3</sub>)<sub>2</sub> +  $\longrightarrow$  HCl  $\rightarrow$ 

Will this reaction occur? \_\_\_\_\_

3) 
$$Ma_2CO_3 + MF \rightarrow$$

Will this reaction occur? \_\_\_\_\_

4) 
$$\_\_AgNO_3 + \_\_CuSO_4 \rightarrow$$

Will this reaction occur? \_\_\_\_\_

5) AgF + NiCl<sub>2</sub> 
$$\rightarrow$$

Will this reaction occur? \_\_\_\_\_

6) Devise a method for making silver chromate, given any two other ionic compounds. Write the equation here:

7) On the opposite side of this page, indicate how much of each reagent you would require to make 100 grams of silver chromate.

## **Double Displacement Reactions - Solutions**

Indicate which of the following double displacement reactions will go to completion, and circle what the product of the reaction will be (if any). You may want to consult a list of  $K_{SD}$  values to solve these problems.

1) 2 NaOH + 1 CaBr<sub>2</sub>  $\rightarrow$  2 NaBr + 1 Ca(OH)<sub>2</sub>

Will this reaction occur? Yes

2) 1 Pb(NO<sub>3</sub>)<sub>2</sub> + 2 HCl  $\rightarrow$  2 HNO<sub>3</sub> + 1 PbCl<sub>2</sub>

Will this reaction occur? Yes

3) 1 Na<sub>2</sub>CO<sub>3</sub> + 2 KF  $\rightarrow$  2 NaF + 1 K<sub>2</sub>CO<sub>3</sub>

Will this reaction occur? No

4) 2 AgNO<sub>3</sub> + 1 CuSO<sub>4</sub>  $\rightarrow$  1 Ag<sub>2</sub>SO<sub>4</sub> + 1 Cu(NO<sub>3</sub>)<sub>2</sub>

Will this reaction occur? Yes

5) 2 AgF + 1 NiCl<sub>2</sub>  $\rightarrow$  2 AgCl + 1 NiF<sub>2</sub>

Will this reaction occur? Not well, as AgCl is insoluble and NiF2 has low solubility

- 6) Devise a method for making silver chromate, given any two other ionic compounds. Write the equation here:
  - Any method may be given, so long as there is only one insoluble product.
- 7) On the opposite side of this page, indicate how much of each reagent you would require to make 100 grams of silver chromate.

The answer to this will, of course, depend on the equation given.