

## Problem Type 1

### Solubility to Ksp

1) Write the dissociation equation. (or -1) \_\_\_\_\_

2) Write the Ksp expression. (or -1)

Calcium fluoride,  $\text{CaF}_2$ , dissolves in water to the extent of 0.00170 g per 100 mL.

What is the Ksp for  $\text{CaF}_2$ ?

## Problem Type 2

### Ksp to Solubility or Concentrations of Ions

1) Write the dissociation equation leaving space underneath. (or -1)

2) Write the Ksp expression. (or -1)

Photographic films are based on the sensitivity of AgBr to light. When light hits a crystal of AgBr, a small fraction of the  $\text{Ag}^+$  ions are reduced to silver metal. The rest of the  $\text{Ag}^+$  ions in these crystals are reduced to silver metal when the film is developed. AgBr crystals that do not absorb light are then removed from the film to "fix" the image.

Let's calculate the solubility of AgBr in water in grams per liter, to see whether AgBr can be removed by simply washing the film.

The Ksp of AgBr is  $5.0 \times 10^{-13}$ .