**Name: Period: Seat#:**

**Worksheet #7**

**It is very common for students to solve for the wrong thing on Ksp questions. For the following question focus your attention on the actual question being asked!**

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| 1. True of False – the terms solubility, solubility-product constant (Ksp), and concentration of ions are the same thing. Explain.
 |
| 1. What is the net ionic equation for the dissolution of silver sulfide in water?
 |
| 1. What is the equilibrium expression (solubility product constant) for the rxn?
 | 1. What are the units on the equilibrium expression?
 |
| 1. If the Ksp is 8.00 x 10-18 what is the molar solubility? *1.26 x 10-6*
 | 1. What are the units on the molar solubility?
 |
| 1. What is the solubility of Ag2S in g/L? *3.12 x 10-4*
 | 1. What is the molarity of a saturated solution of Ag2S?
 |
| 1. What is the [S2-] in a 50mL sample of a saturated solution?
 | 1. What is the [Ag+] in a 50mL sample of a saturated solution?
 |
| 1. What is the [S2-] in a 100 mL sample of the saturated solution?

  | 1. What is the [Ag+] in a 100 mL sample of the saturated solution?
 |
| 1. How many grams of Ag2S can be dissolved in 5 L? *1.56 x 10-3*
 |
| 1. If [Ag+] = 3.5 x 10-14 and [S2-] = 2.3 x 10-12, *2.82 x 10-39*what is the value of Q?
 | 1. Based on your answer to #14, will a precipitate form, yes or no? Why?
 |
| 1. If [Ag+] = 1.75 x 10-4 and [S2-] = 6.2 x 10-9, *1.90 x 10-16*what is the value of Q?
 | 1. Based on your answer to #16, will a precipitate form, yes or no? Why?
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| 1. If [Ag+] = 4.0 x 10-3 and [S2-] = 5.0 x 10-13, *8.00 x 10-18*what is the value of Q?
 | 1. Based on your answer to #18, will a precipitate form, yes or no? Why?
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| 1. What is the minimum number of moles of Ag+ needed to precipitate Ag2S in a 50mL solution that is 0.002 M S2-? *3.16 x 10-9*
 |
| 1. How many moles of Na2S must be dissolved in 0.5 L of a saturated solution of Ag2S to reduce the [Ag+] to 1.2 x 10-6 M? *2.78 x 10-6*
 |
| 1. What is the molar solubility of Ag2S when made in a 0.10 M solution of Na2S instead of distilled water? *4.47 x 10-9*
 | 1. What is the solubility in g/L of Ag2S when made in a 0.10 M solution of Na2S instead of distilled water?*1.11 x 10-6*
 |
| 1. How many grams of Ag2S can be dissolved in 5 L of the 0.10 M solution of Na2S? *5.54 x 10-6*
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| 1. How do your answers for #13 and #24 compare? Do they make sense when looking at your answers to #5, 7, 22 and 23? Explain.
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