**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Solution Chemistry Review**

1. What is a solution?

2. What is a solute? solvent?

3. Describe how NaCl ‘dissociates’ in water, and give the dissociation equation.

4. What is a saturated solution? How can you tell if a solution is saturated?

5. What types of solutions conduct? Why?

6. What types of solutions don’t conduct? Why?

7. Explain how you can determine the difference between an ionic and covalent solution when looking at a formula.

8. Are each of the solutions ionic or covalent?

a) LiBr (b) CH4 (c) Mg(NO3)2 (d) HCl (e) C12H22O11 (f) (NH4)2SO4

9. Calculate the number of moles of MgI2 in 0.50L of a 0.64M MgI2 solution.

10. What mass of silver nitrate are required to make 200.0mL of a 0.75M AgNO3 solution?

11. If you dissolve 3.43g of Ba(OH)2 into 2.50L of water, what is the molarity?

12. How much extra water must be added to 250mL of a 1.25M NaCl solution to dilute it to 0.500M?

13. 1.00L of 12.0M HCl is diluted to 20.0L. What is the molarity of the diluted solution?

14. Write dissociation equations and give the molarity of each ion for:

a) 0.30M Ba(NO3)2 (b) 0.070M (NH4)3PO4

15. Give the molarity of each ion when 1.45g of MgCl2 is dissolved in 500.0mL of water.

16. Give all ion concentrations when 100.0mL of 0.40M NaI is mixed with 50.0mL of 0.50M MgBr2.

17. Which of the following salts are soluble and which are low solubility?

a) CuCl2 (b) CuI (c) Ag2SO4 (d) K2CO3 (e) Sr(OH)2 (f) FeS

18. Write a formula, complete ionic, and net ionic equation when FeSO4(aq) is mixed with NaOH(aq)

19. Draw a flowchart to separate a mixture that may or may not contain S2- and/or SO42-.

20. Draw a flowchart to separate a mixture that may or may not contain Pb2+, Ca2+, and Sr2+