**Dougherty Valley HS AP Chemistry**

**WORKSHEET #8**

**Acid Base – Ksp and solubility**

**Name: Date: Period: Seat #:**

Show all work for each question, box your final answer

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| **#1**: Calculate the pH of a saturated solution of AgOH, Ksp = 2.0 x 10-8 [*10.15*] |

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| **#2**: Calculate the pH of a saturated solution of Cu(OH)2, Ksp = 1.6 x 10-19 [*7.835*] |

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| **#3**: Calculate the pH of a saturated solution of Mg(OH)2, Ksp = 5.61 x 10-12 [*10.350*] |

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| **#4**: Calculate the pH of a saturated solution of Ba(OH)2, Ksp = 5.0 x 10-3. [*13.33*] |

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| The following three examples are all of the form X(OH)2. These are the ones most commonly asked on tests and in worksheets. Calculate the pH of a saturated solution of: |
| **#5**: Ca(OH)2, Ksp = 7.9 x 10-6 (pH = *12.10*) |
| **#6**: Mn(OH)2, Ksp = 4.6 x 10-14 |
| **#7**: Ni(OH)2, Ksp = 2.8 x 10-16 |

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| **#8**: A saturated solution of Mg(OH)2 is prepared. The pH of the solution is 10.17. What is the Kspfor this compound?  [Ksp = 1.62 x 10-12] |

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| **#9**: What is the minimum pH at which Cr(OH)3 will precipitate? Ksp of Cr(OH)3 is 6.70 x 10-31 [6.576] |

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| **#10**: What is the minimum pH at which Cr(OH)3 will precipitate if the solution has [Cr3+] = 0.0670 M?  Ksp of Cr(OH)3 is 6.70 x 10-31 [4.333] |

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| **#11**: At what pH will Al(OH)3(s) begin to precipitate from 0.10 M AlCl3? The Ksp of Al(OH)3 is 1.90 x 10-33 [3.426] |