

## Honors Chemistry: Solutions 4 Problem Set- Ions in Solution

1. What concentrations of ions are present in 1.5 M  $\text{CaCl}_2(\text{aq})$ ?
2. What concentration of sodium phosphate contains 0.60 M  $\text{Na}^+$ ?
3. Write the relationship between the concentrations of the ions present in a solution of lithium phosphate.
4. What mass of potassium ions is in 0.75 L of 2.8 M  $\text{K}^+$ ?
5. Iron(III) nitrate solutions are used by jewelers to etch silver. How many  $\text{NO}_3^-$  ions are dissolved in a 525 mL bath of 3.0 M iron(III) nitrate?
6. In reflected light, iron(III) chloride crystals appear dark green but in transmitted light they appear maroon. What concentration of iron(III) chloride contains 0.038 M  $\text{Cl}^-$ ?
7. Milk has a  $[\text{Ca}^{2+}]$  of about 31.4 mM. What mass of  $\text{Ca}^{2+}$  ions are in a 250 mL serving of milk?