1. A *Mohr Titration* is a procedure for finding out the amount of Cl^- in a solution by titrating it with aqueous $AgNO_3$:

   $Ag^+(aq) + Cl^-(aq) \rightarrow AgCl(s)$

   Calculate the Ag^+ concentration at the equivalence point, that being the point in the titration where the number of moles of added silver is equal to the moles of Cl^- ion initially present. $pK_{sp}(AgCl) = 9.7447$ **[1.34×10^{-5} M]**

2. Calculate the solubility (in g/100 mL) of $Pb_3(AsO_4)_2$ (pK_{sp} 35.3979) in:
   a) Water **[2.94×10^{-6}]**
   b) 0.10 M $Pb(NO_3)_2$ **[2.84×10^{-15}]**
   c) 1.0 M $Na_2S_2O_3$ ($pK_f(Pb(S_2O_3)_3^{-4}) = -6.3424$) **[0.0187]**

3. The pH (at 37°C, where $K_w = 2.4 \times 10^{-14}$) of a certain metal hydroxide of formula $M(OH)_3$ is 11.10. What is K_{sp} for the metal hydroxide at 37°C? **[2.78×10^{-11}]**

4. A solution has $[Cl^-] = 2.0$ M and $[Br^-] = 0.010$ M. $AgNO_3$ is slowly added to the solution. What will be the percent of the first ion remaining at the point of maximum separation of Br^- and Cl^-? $pK_{sp}(AgBr) = 12.30103$ **[55.6% of Br^- remains]**