Name	_ AP Chem	
Chapter 14 HW - #4 (Due 11/15/2019) Complete both free response questions. final answers	One will be graded. Show all w	ork. Box and clearly label all
1. Monochloroacetic acid, HC <sub>2</sub> H <sub>2</sub> ClO <sub>2</sub> , is a skin irr from the face and improve complexion. The value  (a) Calculate the pH for a 0.30 M solution  (b) Calculate the percent dissociation 0.30  (c) Calculate the pH for a 0.025 M solution  (d) Calculate the percent dissociation 0.00  (e) Even though percent dissociation increase.	of K <sub>a</sub> for monochloroacetic acid is 1.35 n of monochloroacetic acid.  O M solution of monochloroacetic acid. on of monochloroacetic acid.  Solution of monochloroacetic acid.	x 10 <sup>-3</sup> .
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<ul> <li>2. HF(aq) is a weak acid. It reacts with NaOH(aq) according to the reaction represented below.  HF(aq) + OH⁻(aq) ⇒ H₂O(l) + F⁻(aq)</li> <li>A volume of 35 mL of 0.39 M NaOH(aq) is added to 45 mL of 0.40 M HF(aq) solution. Assume that volumes are additive.</li> <li>(a) Calculate the number of moles of HF(aq) remaining in the solution.</li> <li>(b) Calculate the molar concentration of F⁻(aq) in the solution.</li> </ul>
In a reaction vessel, 0.900 mol of Ba(NO <sub>3</sub> ) <sub>2</sub> (s) and 0.400 mol of H <sub>3</sub> PO <sub>4</sub> (aq) are combined with deionized water to a final volume of 2.00 L. The reaction represented below occurs.  3Ba(NO <sub>3</sub> ) <sub>2</sub> (aq) + 2H <sub>3</sub> PO <sub>4</sub> (aq) → Ba <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> (s) + 6HNO <sub>3</sub> (aq)  (c) Calculate the mass of Ba <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> (s) formed.  (d) What is the concentration, in mol L <sup>-1</sup> , of the nitrate ion, NO <sub>3</sub> <sup>-</sup> (aq), after the reaction reaches completion?
(e) What is the concentration, in mol $L^{-1}$ , of the barium ion, $Ba^{2+}$ (aq), after the reaction reaches completion?