

## Solutions 8-10 Problems (Part 1) 2022

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

- 1). Write the acid dissociation equation for sulfuric acid. How many moles of hydronium will form if 2 moles of sulfuric acid dissociate?
  
  
  
  
  
  
  
  
  
  
- 2). In an acid-base reaction hydrofluoric acid (HF aq) is combined with cyanide (CN<sup>-</sup> aq). Write and balance the reaction. Clearly label the Brønsted-Lowry acid and base. Also label the conjugate acid and base.
  
  
  
  
  
  
  
  
  
  
- 3). Calculate the concentration of hydronium and hydroxide ions in 0.15 M HClO<sub>4</sub>. Justify that the solution is acidic.
  
  
  
  
  
  
  
  
  
  
- 4). In a laboratory, you make a base by adding 2.0 grams of NaOH to 380 mL of water. Calculate the molarity and pOH of the NaOH base.
  
  
  
  
  
  
  
  
  
  
- 5). A student makes 200 mL of a solution with a 0.025 M concentration of Ca(OH)<sub>2</sub>. The solution is then diluted to 1.0 L by adding additional water. Calculate the pH of this solution at 25 °C.