Name: _____   Date: _____

AP Chemistry 30 – Lab Activity 11: Strong Acid and Strong Base Titration Curves

1. Write the neutralization reaction between nitric acid and potassium hydroxide.

2. Calculate the pH for each of the following stages in a titration of 0.120 M nitric acid (HNO_3) with 0.100 M potassium hydroxide (KOH). Show your work for each step.

Volume of Acid (mL)	Volume of Base (mL)	Calculations	pH
10.0	0.0		
10.0	4.0		
10.0	8.0		
10.0	12.0		
10.0	16.0		
10.0	20.0		

Name: _____ Date: _____

3. Graph the pH (dependent) versus the volume of potassium hydroxide added (independent). Connect the points with a smooth curve.
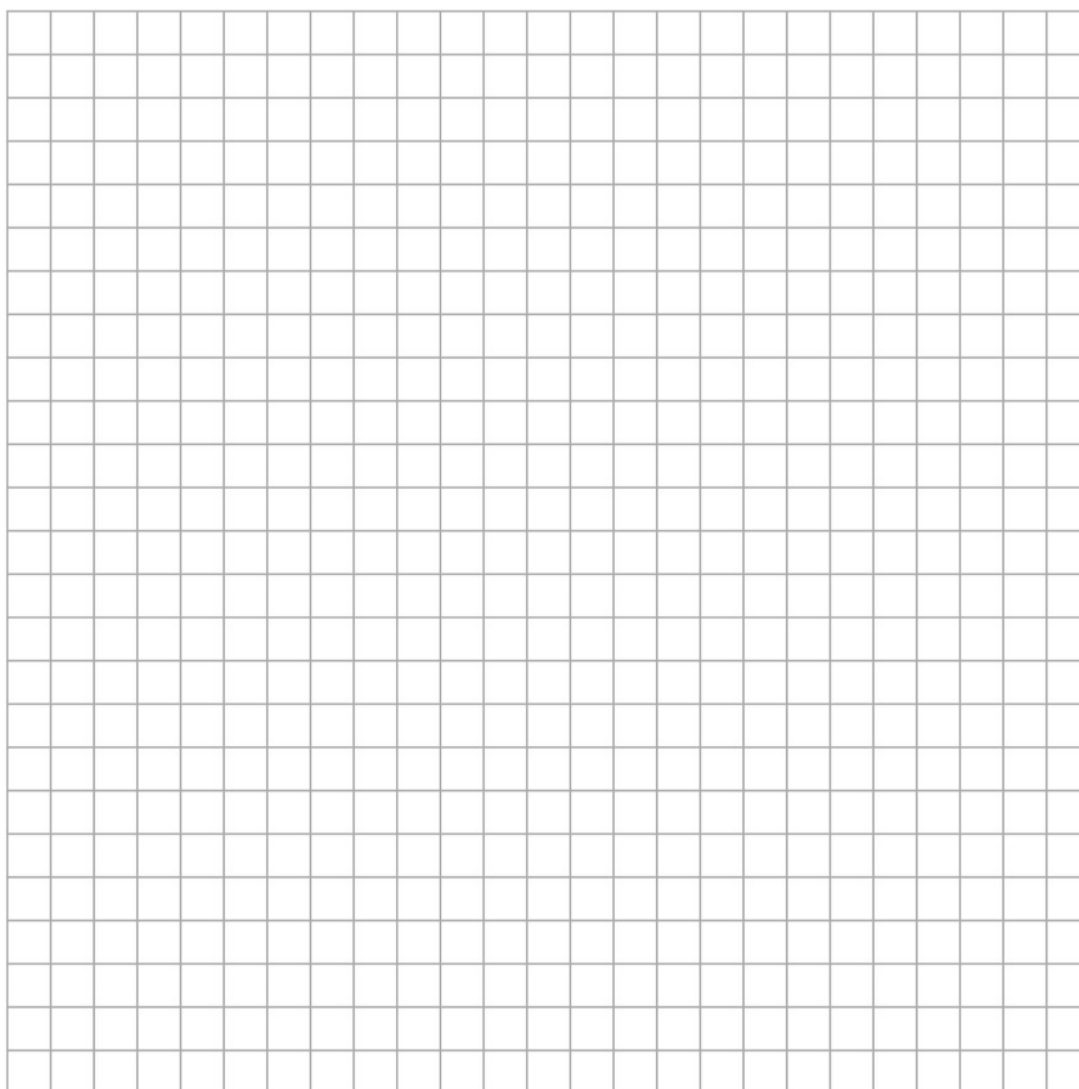
4. Answer the following questions:
   a. What is the pH at the equivalence point (when all of the acid is neutralized)?
   b. What is the pH at the half equivalence point (when half of the acid is neutralized)?
   c. What indicator would be good for this titration? Why? (You need to look up the chart in your notes or textbook to answer this.)
   d. How would this graph look the same and different if you were varying the amount of acid in a constant amount of base? Be specific. Sketch the graph if that helps with your explanation.
   e. How would this graph look the same and different if you were using a weak acid?