Multiple Choice Response Sheet

Name:_____

Acid-Base #2

Titration Curves

1.	D	19.	
2.	D	20.	
3.	B	21.	
4.	D	22.	
5.	D	23.	
6.	C	24.	
7.	D	25.	
8.	B	26.	
9.	B	27.	
10.		28.	
11.		29.	
12.		30.	
13.		31.	
14.		32.	
15.		33.	
16.		34.	
17.		35.	
18.		36.	

1. pH at equivalence is somewhere between 8 & 9
(* equivalence is around the 25.00 mL mark as evidenced by the huge change in pH over a small volume)

a) The acid HX is weak. The pH at equivalence is greater than 7 which is typical of a weak acid - strong base titration. This is because the salt produced is a basic salt. The other piece of evidence is the initial pH value. If HX were strong, the pH would be the same as $-\log(\text{initial } [HX])$ which would equal 0.70 ($pH = -\log(0.20M)$). The pH before the titration starts is 2.72 instead. This means that the HX does not react completely to produce H^+

b) phenolphthalein, thymolphthalein, or thymol blue.

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2. a) The pH @ equivalence in Titration A would be 7 while the pH @ equivalence for Titration B would be greater (pH 8 to 10)

b) The salt produced in the reaction for Titration A will be neutral while the salt produced in Titration B does a basic hydrolysis reaction with water.