5. Data in the following table were obtained for the titration of a 0.297-g sample of a solid, monoprotic weak acid with a 0.150 M KOH solution. Plot (at right) pH (ordinate) versus V_{KOH} (abscissa).

V_{KOH} added (mL)	pH
0.00	1.96
2.00	2.22
4.00	2.46
7.00	2.77
10.00	3.06
12.00	3.29
14.00	3.60
16.00	4.26
17.00	11.08
18.00	11.67
20.00	12.05
25.00	12.40
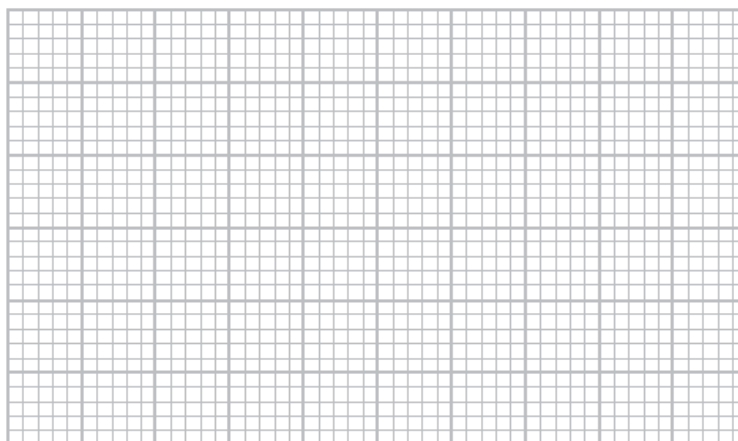
a. What volume of the KOH solution is required to reach the stoichiometric point?

b. What is the pH at the stoichiometric point?

c. What is the pK_a of the weak acid?

d. Calculate the number of moles of weak acid analyzed.

e. What is the molar mass of the solid weak acid, expressed to the correct number of significant figures?