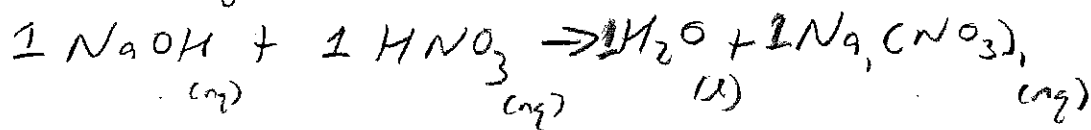


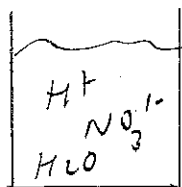
Add 0.0 ml of 0.100 M NaOH into 50.0 ml of 0.200 M HNO_3 Pg 1
(STRONG ACID TITRATED BY STRONG BASE)

Using stoichiometry to get rid of all $\text{NaOH}(\text{OH}^-)$



$\text{mol OH}^-_{\text{add}} = 0.0 \text{ ml}$ so no HNO_3 consumed or NO_3^- produced

Analyze updated bucket



H^+ is major species.

$$[\text{H}^+] = \underbrace{(50.0 \text{ ml}) \left(\frac{1 \text{ L}}{1000 \text{ ml}} \right)}_{\text{Do not need to do this since you did not change volume of bucket}} (0.200 \text{ M HNO}_3) \left(\frac{1 \text{ mol H}^+}{1 \text{ mol HNO}_3} \right)$$

Do not need
to do this since
you did not change
volume of bucket

$$[\text{H}^+] = (0.200 \text{ M HNO}_3) \left(\frac{1 \text{ mol H}^+}{1 \text{ mol HNO}_3} \right) = 0.200 \text{ M}$$

$$\text{pH} = -\log[\text{H}^+] = -\log(0.200 \text{ M}) = -(-0.6989)$$

$\text{pH} = 0.699$