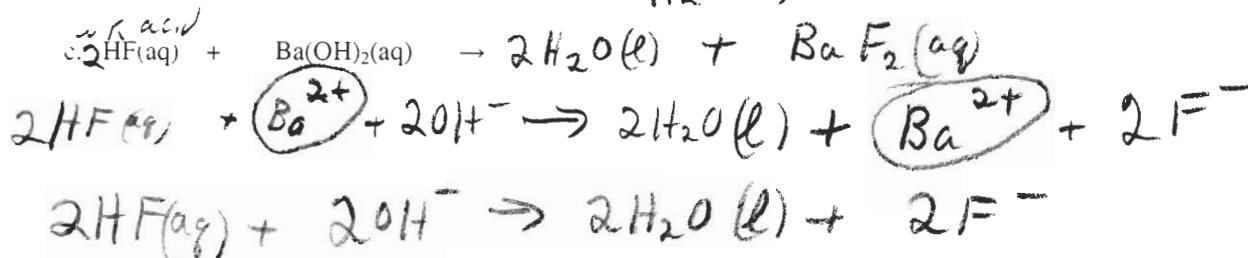
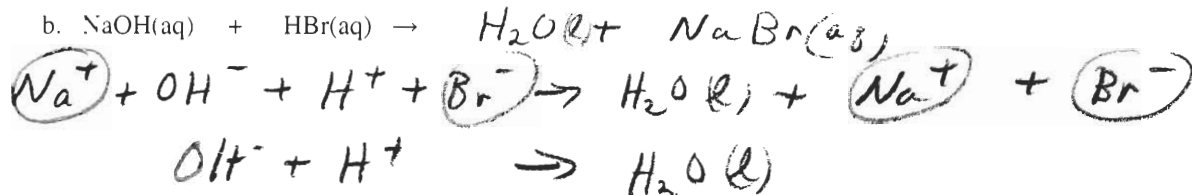
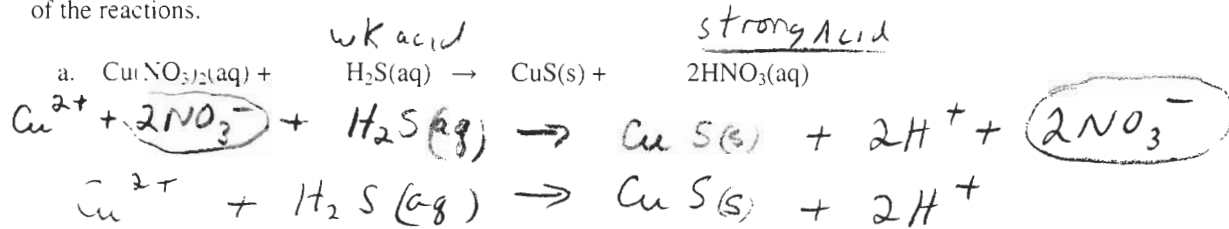


1. (3 Pts) Which one of the following is a strong acid?

- a) HF **b) HNO₃** c) CH₃COOH d) H₂SO₃ e) H₂CO₃

2. (9 Pts) Write the **total ionic and the net ionic** equation for the following reactions. You may have to complete and balance some of the reactions.



3. (4 Pts) What mass of CaCl₂ must be dissolved in enough water to produce 2000 mL of 1.25 M CaCl₂ solution?

$$\frac{2000 \text{ mL}}{1000 \text{ mL}} \times \frac{1.25 \text{ mole}}{\text{mol}} \times 110.98 \text{ g} = 277 \text{ g CaCl}_2$$

"Shortcut"

Sig. figs. weren't indicated in the 2000 mL

4. (4 Pts) How many mL of 18.4 M H₂SO₄ are needed to prepare 600 mL of 0.10 M H₂SO₄?

$$M_1 V_1 = M_2 V_2$$

$$(18.4 \text{ M}) V_1 = (600 \text{ mL})(0.10 \text{ M H}_2\text{SO}_4)$$

$$V_1 = 3.26 \text{ mL} \quad (3.3 \text{ mL})$$

5. (5 Pts) What volume of 0.130 M HCl solution will just react with 0.424 gram of Ba(OH)₂?

