Acid/Base I Written Response:

1,...

(3 marks)

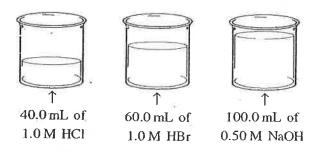
Complete the following equilibrium, then predict whether the reactants or products will be favoured and explain why.

$$HSO_4^- + HSO_3^- \stackrel{\rightarrow}{\leftarrow}$$

2.

(3 marks)

The following three solutions are mixed together in a fourth container:



What pH results?

What mass of NaOH(s) is required to just neutralize 50.0 mL of 2.0 M H_2SO_4 ? Begin by writing the balanced equation for the neutralization reaction.

(3 marks)

4. Water, at 60°C, has a $K_w = 9.55 \times 10^{-14}$.

a) Write an equation representing the ionization of water. Include the heat of reaction (57.1kJ) in the equation.

(2 marks)

b) If a small amount of NaOH is added to water, what happens to the value of K_w ?

(1 mark)