Mixed Stoichiometry

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. A 6.72 g sample of zinc was placed in 100.0 mL of 1.50 mol/L hydrochloric acid. After all reaction stops, how much zinc should remain? (5 marks)
2. An unlabelled white solid acid, H2X(s),is known to react in a 1:2 mole ratio with sodium hydroxide. In an attempt to identify the acid, a titration provides evidence that 12.5 mL of 0.300 mol/L NaOH(aq)reacts with 0.169 g of the acid. What is the molar mass of the acid? (5 marks)
3. What volume of hydrogen gas at STP will be produced when 1000 g of aluminum is added to 4.00 L of 1.40 mol/L sulfuric acid? (4 marks)