AP Acid/Base problems

For each of the following, write out the complete balanced equation for the reaction and calculate the concentration of the unknown solution.

1. 27.4 mL of 0.150 M hydrochloric acid reacts with 30.0 mL of potassium hydroxide solution of unknown concentration.
2. 33.5 mL of 0.200 M sodium hydroxide reacts with 22.5 mL of hydrobromic acid solution of unknown concentration.

For each of the following: write out a complete chemical equation and a net ionic equation for the reaction, then calculate the specified value.

1. A tanker truck carrying 43,900 L of concentrated sulfuric acid (18.4M) crashes through the guard rails on the beltline, tearing a hole in the side of the tank and submerging the truck in Lake Monona.

Equation:

1. If the lake has a volume of 1.10x1012L, what would be the concentration of sulfuric acid in the lake after the crash?
2. Assuming uniform mixing, what would be the pH of the lake after the crash?
3. In a hasty attempt to neutralize the spill, the city of Madison pours 45,000L of 16.2M calcium hydroxide in to the lake. Would the lake be neutral? Support with the final pH value of the lake.