

SHOW ALL WORK IN PROBLEMS!

- 1) A solution with a pH of 3 is tested with litmus and bromocresol green.
 - a) What color is the litmus? _____
 - b) What color is the bromocresol green? _____
- 2) A solution with a pH of 11 is tested with litmus and phenolphthalein.
 - a) What color is the litmus? _____
 - b) What color is the phenolphthalein? _____
- 3) A solution with a pH of 7.8 is tested with thymol blue and bromthymol blue.
 - a) What color is the thymol blue? _____
 - b) What color is the bromthymol blue? _____
- 4) A solution with a pH of 3.0 is tested with methyl orange and bromocresol green.
 - a) What color is the methyl orange? _____
 - b) What color is the bromocresol green? _____
- 5) Write a chemical equation for the neutralization reaction that occurs between hydrochloric acid and sodium hydroxide.
- 6) Write a chemical equation for the neutralization reaction that occurs between potassium hydroxide and sulfuric acid.
- 7) What is the most concise way of writing a neutralization reaction? _____
- 8) A 30 mL sample of HCl is completely neutralized by 10 mL of a 1.5 M NaOH solution. What is the molarity of the HCl solution?
- 9) How many mL of 4.0 M NaOH are needed to completely neutralize 60 mL of 3.2 M H_2SO_4 ?