

# Stoichiometry (Worksheet)

## Q1.

Given the following reaction:

$$H_2SO_4 + NaOH \rightarrow Na_2SO_4 + H_2O$$
 (1)

If it takes 27.4 mL of 0.768 M NaOH to titrate 16.7 mL of  $H_2SO_4$ , what is the concentration of the  $H_2SO_4$  solution? (hint: balance the equation first)

## Q2.

Given the following reaction:

$$NaOH + HCl \rightarrow H_2O + NaCl$$
 (2)

If 24.5 mL of HCl solution is needed to titrate 33.0 mL of a 0.112 M NaOH, what is the concentration of the HCl solution?

## Q3.

Given the following reaction:

$$Ba(OH)_2 + HClO_4 \rightarrow Ba(ClO_4)_2 + H_2O$$
 (3)

How many mL of 1.2 M  $HClO_4$  is needed to neutralize 5.8 mL of a 0.44 M  $Ba(OH)_2$  solution?

## Q4.

Given the following reaction:

$$H_2SO_4 + Na_2CO_3 \rightarrow Na_2SO_4 + H_2O + CO_2$$
 (4)

Calculate the molarity of the  $H_2SO_4$  solution if it takes 40.0 mL of  $H_2SO_4$  to neutralize 46.7 mL of a 0.364 M  $Na_2CO_3$  solution.

### Contributors

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