

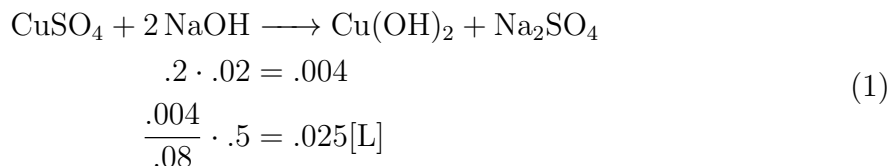
# Review Set Chapter 4

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1. What volume of .08[M] solution of copper (II) sulfate is needed to react with .02[L] of .2[M] solution of sodium hydroxide? (1)



2. Give the oxidation number of each atom in the following:
  - (a)  $\text{N}_2\text{H}_4 \rightarrow \text{N} = -2, \text{H} = 1$
  - (b)  $\text{NOF} \rightarrow \text{N} = 3, \text{F} = -1, \text{O} = -2$
  - (c)  $\text{Sb}_4\text{O}_{10} \rightarrow \text{O} = -2, \text{Sb} = 5$
  - (d)  $\text{CaC}_2\text{O}_4 \rightarrow \text{Ca} = 2, \text{O} = -2, \text{C} = 3$
  - (e)  $\text{HSO}_4 \rightarrow \text{S} = 6, \text{H} = 1, \text{O} = -2$
  - (f)  $\text{Sn}^{4+} \rightarrow \text{Sn} = 4$
3. State which reactant is oxidized and which is reduced:
4. How many grams of solid is produced when 13[mL] of .164[M] zinc (II) sulfate is mixed with excess ammonium sulfide:
5. Complete each of the following, indicate the physical state of each product:
6. Given the following reactants, write the corresponding balanced complete ionic equation. Include physical states and any charges:
7. How many grams of solid is produced when 50[mL] of .2[M]  $\text{Na}_2\text{CO}_3$  is mixed with 50[mL] of .158[M] of  $\text{BaCl}_2$
8. Balance the following Redox equations: