

Test Outline

- 12 multiple choice
- 4 - 5 Constructed Response

Lab Report

- State the Problem/Question (P104)
- Materials + Procedure: Refer to pages
 - Note any changes to the procedure/material.

Results: Neatly compile results in an organized fashion.

Analysis: Do questions 1, 3, 4, 5a), 7, 8

Conclusion:

- Briefly summarize the experiment
- State your findings, compare to the expected value. ($\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$)
- State sources of error, if any.
- Suggest possible improvements.

Sample Problem - P102 of

a) A 50.0g sample of the hydrate contains 27.2g of Ba(OH)_2 . Calculate the % by mass of water in $\text{Ba(OH)}_2 \cdot x\text{H}_2\text{O}$

50.0g - 27.2g = 22.8g of water
 $\frac{22.8g}{50.0g} \times 100\% = 45.6\% \text{ water}$

b) Find the value of x in $\text{Ba(OH)}_2 \cdot x\text{H}_2\text{O}$

Our sample contains:
 • 27.2g of Ba(OH)_2
 • 22.8g of H_2O

Find moles of $\text{Ba(OH)}_2 + \text{H}_2\text{O}$:

$n = \frac{m}{M}$
 Ba(OH)_2 : $n = \frac{27.2g}{171.35g/mol} = 0.158 \text{ mol}$

H_2O : $n = \frac{22.8g}{18.02g/mol} = 1.26 \text{ mol}$

Divide each by lowest mol value:
 $\frac{0.158 \text{ mol}}{0.158 \text{ mol}} = 1$

$\frac{1.26 \text{ mol}}{0.158 \text{ mol}} = 7.97 \approx 8$

