

General Chemistry 109

9-12 Sunday

Quiz No. : 2

Date: 18/02/2012

Name (Arabic): ~~XXXXXXXXXX~~

No. : ~~XXXXXXXXXX~~

Q1) A 1.26 g of sample with the formula  $MSO_4 \cdot xH_2O$  was heated to get 0.005 mol of anhydrous, if the percentage of water in the sample 50%, calculate the value of the X? (Atomic weight : H=1.008, O=16.00 g/mol); M is an unknown metal.

$X = \frac{\text{moles of } H_2O}{\text{moles of } MSO_4}$

Percentage of  $H_2O = \frac{m_{H_2O}}{m_T}$

$\frac{50}{100} = \frac{m_{H_2O}}{1.26}$

mass of  $H_2O = 0.63$  g.

$m \cdot m_{H_2O} = 2 \times 1 + 1 \times 16$   
 $= 2 + 16$   
 $= 18 \text{ g/mol}$

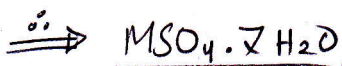
$X = \frac{\text{moles of } H_2O}{\text{moles of } MSO_4}$

$X = \frac{0.035}{0.005}$

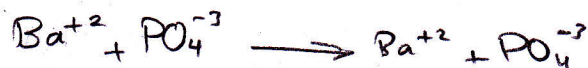
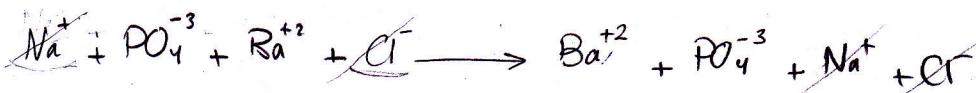
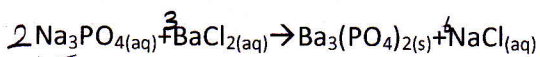
$X = 7$

$n_{H_2O} = \frac{m}{m \cdot m}$   
 $= \frac{0.63}{18}$

$n_{H_2O} = 0.035 \text{ mol}$



Q2) Write the net ionic equation for the following reaction:



① Balanced!

Good luck