

## General Chemistry Multiple Choice Questions Chapter 8

1 Write the skeleton chemical equation for the following word equation:

*Hydrochloric acid plus magnesium yields magnesium chloride and hydrogen gas.*

- a  $HClO_4 + Mg \rightarrow MgClO_4 + H_2$                       b  $HClO_4 + Mg \rightarrow MgClO_4 + H$   
c  $HCl + Mg \rightarrow MgCl_2 + H_2$                       d  $HCl + Mg \rightarrow MgCl_2 + H$

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2 Write the skeleton chemical equation for the following word equation:

*Sodium hydroxide and hydrochloric acid react to yield sodium chloride and water.*

- a  $NaOH + HCl \rightarrow NaCl + H_2O$                       b  $NaOH + HClO_4 \rightarrow NaCl + H_2O$   
c  $NaH + HCl \rightarrow NaCl + H_2O$                       d  $NaOH + HOCl \rightarrow NaCl + H_2O$

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|  | 8.1 |
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3 Write the skeleton chemical equation for the following word equation:

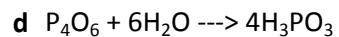
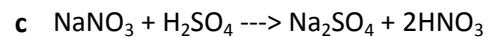
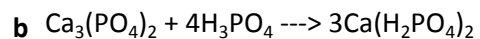
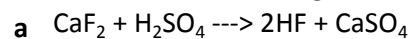
*Ammonia plus sulfuric acid yield the ammonium ion and the hydrogen sulfate (-) ion.*

- a  $NH_4 + H_2SO_4 \rightarrow NH_3^- + HSO_4^-$                       b  $NH_3 + H_2SO_4 \rightarrow NH_4^+ + HSO_4^-$   
c  $NH_3 + HSO_4 \rightarrow NH_4^+ + SO_4^-$                       d  $NH_3 + H_2SO_4 \rightarrow NH_4 + HSO_4$

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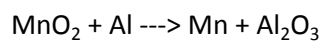
## General Chemistry Multiple Choice Questions Chapter 8

1 Which of the following chemical equations is *not* balanced?



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2 What is the coefficient in front of  $\text{MnO}_2$  when the following equation is balanced?



a 1

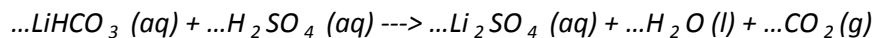
b 2

c 3

d 4

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|  | 8.2 |
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3 When the equation below is balanced and the coefficients are reduced to lowest whole-number terms, what is the coefficient on  $\text{H}_2\text{O} (l)$ ?



a 1

b 2

c 3

d 4

e 5

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|  | 8.2 |
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## General Chemistry Multiple Choice Questions Chapter 8

- 1 Copper does not react with hydrochloric acid whereas manganese does. This means that
- a Copper is more active than hydrogen                      b Manganese is less active than hydrogen  
c Chloride ion will react with copper                      d Manganese is higher in the activity series than copper

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- 2 Which of the following metals cannot displace hydrogen from water (steam or liquid)?

- a Mg    b K  
c Li    d Ag

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- 3 Use the activity series to predict which of the following reactions will occur.

- a  $Cu(s) + 2AgNO_3(aq) \rightarrow Cu(NO_3)_2(aq) + 2Ag(s)$                       b  $3Fe(s) + Al_2(SO_4)_3(aq) \rightarrow 2Al(s) + 3FeSO_4(aq)$   
c  $H_2(g) + LiOH(aq) \rightarrow 2Li(s) + 2H_2O(l)$                       d  $Cu(s) + ZnSO_4(aq) \rightarrow Zn(s) + CuSO_4(aq)$

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- 4 25.00 mL of a 0.100 M aqueous solution of magnesium chloride is added to 25.00 mL of a 0.150 M aqueous solution of NaOH. A fine white solid substance is observed. Which substance is the white substance?

- a  $MgCl_2$     b  $Mg(OH)_2$   
c NaCl    d NaOH

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- 5 When a strong acid reacts with an active metal, which of the following is formed?

- a  $H_2(g)$     b  $H_2O(l)$   
c An element of the acid    d Another acid

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|  | 8.4 |
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