Chemistry 311/312

Name: Answer Key

Balancing & Identifying Reactions

Practice II

Learning Target
Describe the steps of writing and balancing a chemical equation.
Describe the five general types of reactions.

Directions: Balance the following equations and state the reaction type.

1) _____ $Ca(NO_3)_2$ + _____ Na_2SO_4 → 2 $NaNO_3$ + _____ $CaSO_4$

Ca = 1 Ca = 1
N = 2 N = x2
O = 10 O = x10
Na = 2 Na = x2
S = 1 S = 1

Reaction type: Double Replacement

2) 2 Fe + _____ O_2 → 2 FeO

Fe = x2 Fe = x2
O = 2 O = 2

Reaction type: Synthesis

3) _____ SO_3 + _____ H_2O → _____ H_2SO_4

S = 1 S = 1
O = 4 O = 4
H = 2 H = 2

Reaction type: Synthesis

4) _____ C_3H_8 + 5 O_2 → 3 CO_2 + 4 H_2O

C = 3 C = x3
H = 8 H = x8
O = x10 O = 10

Reaction type: Combustion

Chemistry 311/312

Name:_____

5) _____ Cu + 2 $AgNO_3$ → 2 Ag + _____ $Cu(NO_3)_2$

Switch

Cu = 1
Ag = X2
N = X2
O = X6

Cu = 1
Ag = X2
N = 2
O = 6

Reaction type: Single Replacement

6) 2 $KClO_3$ → 3 O_2 + 2 KCl

K = X2
Cl = X2
O = X6

K = X2
Cl = X2
O = X6

Reaction type: Decomposition

7) _____ Mg + 2 HCl → _____ H_2 + _____ $MgCl_2$

Mg = 1
H = X2
Cl = X2

Mg = 1
H = 2
Cl = 2

Reaction type: Single Replacement

8) _____ K_2CO_3 + _____ $BaCl_2$ → _____ $BaCO_3$ + 2 KCl

K = 2
C = 1
O = 3
Ba = 1
Cl = 2

K = X2
C = 1
O = 3
Ba = 1
Cl = X2

Reaction type: Double Replacement

9) _____ $ZnCO_3$ → _____ ZnO + _____ CO_2

Zn = 1
C = 1
O = 3

Zn = 1
C = 1
O = 3

Reaction type: Decomposition

10) _____ $Fe_2(SO_4)_3$ + 6 KOH → 3 K_2SO_4 + 2 $Fe(OH)_3$

Fe = 2
S = 3
O = ~~X3~~ 18
K = X6
H = X6

Fe = X2
S = X3
O = X6 18
K = X6
H = X6

Reaction type: Double Replacement