

B 10) What is the charge on Iron (III) ion?

- a. -3
b. +3
c. +2
d. -2

C 11) What do you call ions that are made up of more than one atom?

- a. Cations
b. Neutral ions
c. Polyatomic ions
d. Monoatomic ions

A 12) What is the name of the ion that has the symbol $C_2O_4^{2-}$?

- a. Oxalate
b. Cyanide
c. Peroxide
d. Carbonate

A 13) What is the name of the ion that has the symbol WO_4^{2-} ?

- a. Tungstate
b. Wolfstein
c. Vanadate
d. Cyanide

B 14) What is the only polyatomic ion that has a positive charge?

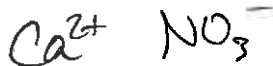
- a. Cyanided
b. Ammonium
c. Sulfate
d. Sodium

A 15) In naming ionic compounds, which do you write first?

- a. The cation
b. The anion
c. The one with the shorter name
d. It doesn't matter

C 16) Which of the following represents the best chemical formula for the compound calcium nitrate?

- a. $CaNO_3$
b. $Ca(NO_2)_3$
c. $Ca(NO_3)_2$
d. $Ca(NO_3)_3$



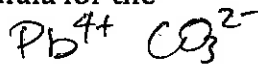
C 17) Which of the following represents the best chemical formula for the compound ammonium carbonate?

- a. $(NH_4)CO_3$
b. NH_4CO_3
c. $(NH_4)_2CO_3$
d. $NH_4(CO_3)_2$



D 18) Which of the following represents the best chemical formula for the compound lead (IV) carbonate?

- a. Pb_2CO_3
b. Pb_4CO_3
c. $Pb_2(CO_3)_4$
d. $Pb(CO_3)_2$



D 19) Which of the following is the correct formula for barium citrate?

- a. $BaC_6H_5O_7$
b. $Ba_2C_6H_5O_7$
c. $Ba(C_6H_5O_7)_2$
d. $Ba_3(C_6H_5O_7)_2$



A 20) Which type of reaction breaks bigger molecules into smaller molecules?

- a. Decomposition
b. Single displacement
c. Combustion
d. Synthesis

C 21) Which type of reaction requires O_2 as a reactant?
a. Decomposition
b. Single displacement
c. Combustion
d. Synthesis

B 22) Which type of reaction replaces the cation in an ionic compound?
a. Decomposition
b. Single displacement
c. Combustion
d. Synthesis

D 23) Which type of reaction starts out with smaller molecules and combines them to form a larger molecule?
a. Decomposition
b. Single displacement
c. Combustion
d. Synthesis

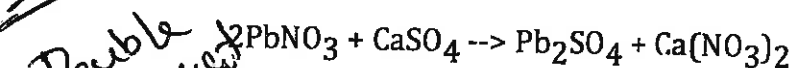
A 24) Which type of reaction is shown by the equation below?
 $CH_3OH \rightarrow CO + 2H_2$

a. Decomposition
b. Single displacement
c. Combustion
d. Synthesis

C 25) Which type of reaction is shown by the equation below?
 $6CO_2 + 6H_2O \rightarrow C_6H_{12}O_6 + 6O_2$
↳ in reverse

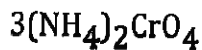
a. Decomposition
b. Single displacement
c. Combustion
d. Synthesis

none 26) Which type of reaction is shown by the equation below?



a. Decomposition
b. Single displacement
c. Combustion
d. Synthesis

Use the following symbol to answer questions 27 through 30.



D 27) How many atoms of hydrogen (H) are present?

a. 4
b. 8
c. 16
d. 24

C 28) How many atoms of chromium (Cr) are present?

a. 1
b. 2
c. 3
d. 4

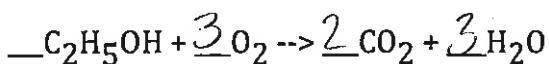
D 29) How many atoms of nitrogen (N) are present?

a. 1
b. 2
c. 3
d. 6

D 30) How many molecules of ammonium (NH_4) are present?

- a. 1
b. 2
c. 3
d. 6

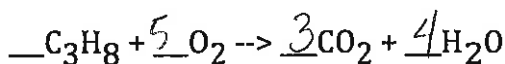
D 31) What are the missing coefficients in the following equation?



- a. 0, 2, 2, 3
b. 1, 2, 2, 3
c. 0, 3, 2, 3
d. 1, 3, 2, 3

2C
6H
7O
= 6C
7O

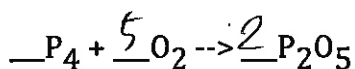
D 32) What are the missing coefficients in the following equation?



- a. 2, 4, 3, 4
b. 0, 5, 3, 4
c. 1, 6, 3, 4
d. 1, 5, 3, 4

3C
8H
10O
= 3C
8H
10O

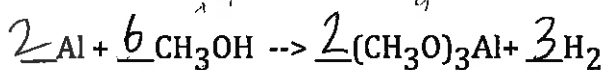
A 33) What are the missing coefficients in the following equation?



- a. 1, 5, 2
b. 0, 5, 2
c. 1, 6, 3
d. 1, 5, 3

4P
10O
= 4P
10O

D 34) What are the missing coefficients in the following equation?



- a. 1, 3, 1, 1
b. 2, 5, 2, 3
c. 1, 6, 2, 3
d. 2, 6, 2, 3

2Al
6C
24H
6O
= 2Al
6C
24H
6O

D 35) In the ionic compound zinc phosphate (ZnPO_4), which is the cation?

- a. P
b. O
c. 4
d. Zn

II. Short Answer

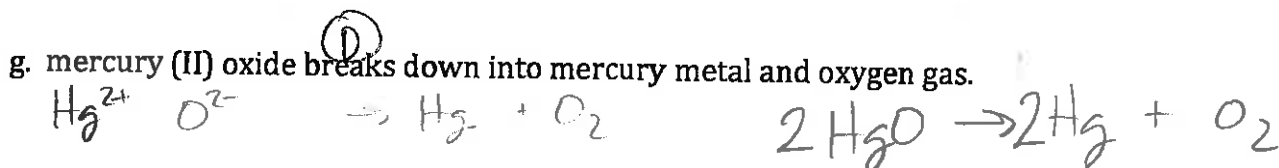
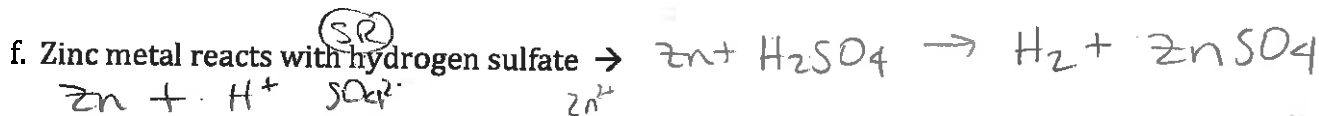
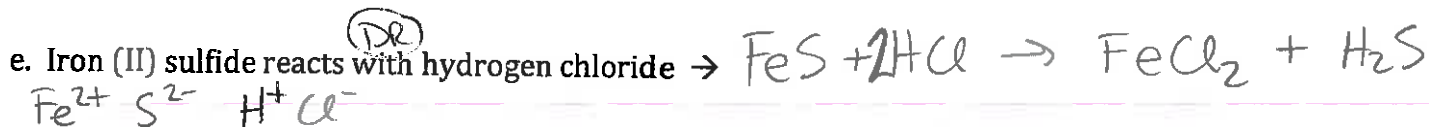
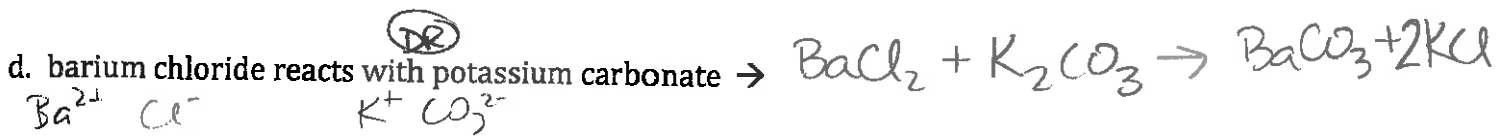
1. **Writing Chemical Equations.** Please re-write the following sentences into complete, balanced chemical equations.

a. Lead (II) nitrate reacts with copper metal \rightarrow

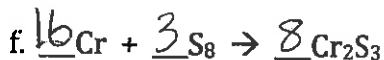
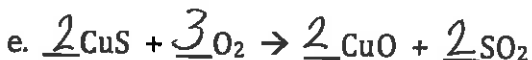
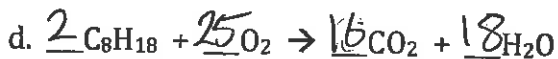
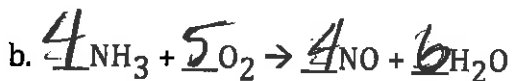
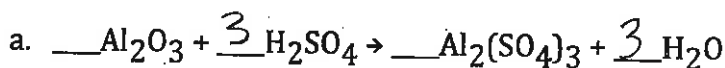
SR
No Reaction
(see activity series)

c. tetracarbon decahydride reacts with oxygen gas \rightarrow



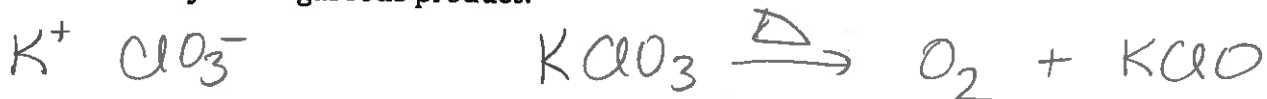


2. **Balancing Equations.** Balance the following equations



3. Lab Question:

You heat a sample of potassium chlorate, after heating it changes color and loses mass. What type of reaction has taken place? What is the balanced chemical equation for this reaction? How could you prove the identity of the gaseous product?



Capture and try to ignite the gas if it flairs up it is O_2

