

Science 10
Review – SA: Chem #3
(November 2017)

#15
a
b
c
d
jk

Key

Part 1 – Multiple Choice

Print the letter of the best answer on the line provided.

-
- C 1. What is the correct name for the N^{3-} ion?
a) nitrogen ion
b) nitrate ion
c) nitride ion
d) nitrite ion
- D 2. In the following reaction, which substance is the salt? $HBr + NaOH \rightarrow H_2O + NaBr$
a) HBr
b) NaOH
c) H_2O
d) NaBr
- B 3. Which of the following compounds contains the lead (II) ion?
a) Pb_2O
b) PbO
c) Pb_2S
d) $PbCl_4$
- A 4. Which is true about the composition of ionic compounds?
a) They are composed of cations and anions.
b) They are formed from two or more nonmetallic ions.
c) They are composed of only anions.
d) They are composed of only cations.
- D 5. Which of the following is the correct name for N_2O_5 ?
a) nitrous oxide
b) pentanitrogen dioxide
c) nitrate oxide
d) dinitrogen pentoxide
- D 6. Which of the following formulas represents an ionic compound?
a) CS_2
b) PCl_3
c) N_2O_4
d) BaI_2

NO_3^-

- A 7. Molecular compounds are usually
- composed of two nonmetals.
 - composed of positive and negative ions.
 - composed of a metal and a nonmetal.
 - composed of two or more transition metals.
- B 8. Which of the following shows a prefix used in binary molecular compounds with its corresponding number?
- hexa - 8
 - nona - 9
 - di - 7
 - penta - 3
- D 9. Given, $2\text{Ca} + \text{O}_2 \rightarrow 2\text{CaO}$, what is the 2 located in front of calcium called?
- subscript
 - product
 - reactant
 - coefficient
- C 10. Which of the following salts dissolves in water to produce a basic aqueous solution?
- LiF
 - CaBr₂
 - Mg(OH)₂
 - HCl
- A 11. If an acid is spilt on a laboratory table, which of the following substances should be added to it to neutralize it?
- sodium hydroxide
 - acetic acid
 - citric acid
 - water
- D 12. In a neutralization reaction, the two products are a
- salt and acid
 - base and acid
 - water and base
 - water and salt
- C 13. A formation reaction can be compared to:
- two dancing couples switching partners
 - a person "cutting in" on a dancing couple
 - two single people joining for a dance
 - a couple breaking up

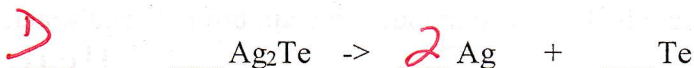
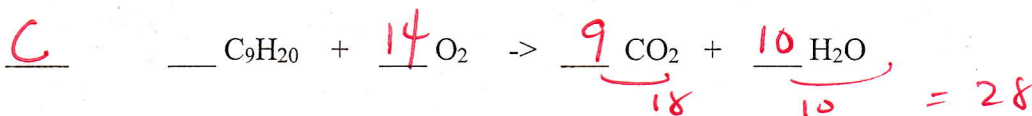
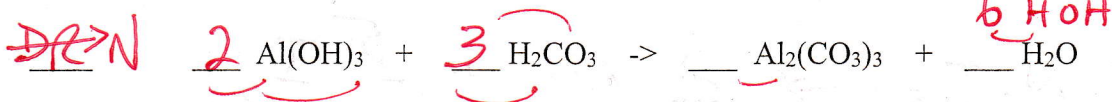
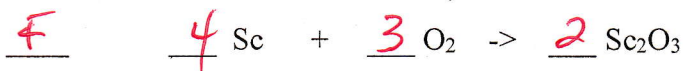
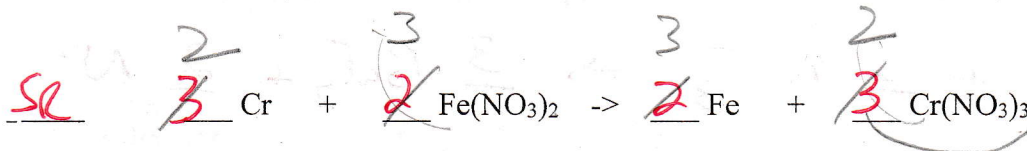
- D 14. The substances to the left of the arrow in a chemical reaction are called
- a) products
 - b) coefficients
 - c) subscripts
 - d) reactants



- B 15. An example of an oxyacid is
- a) H₂O
 - b) HClO
 - c) HBr
 - d) HCN

Part 2 – Reaction Types

- a) Identify each type of chemical reaction by printing F for formation, D for decomposition, SR for single replacement, DR for double replacement, C for combustion or N for neutralization on the line provided.
- b) Balance each reaction.

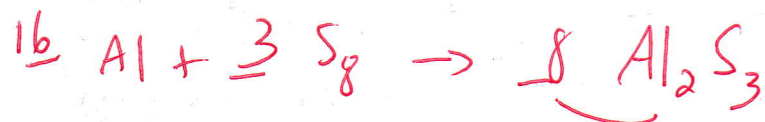


$$\frac{14}{2} = 28$$

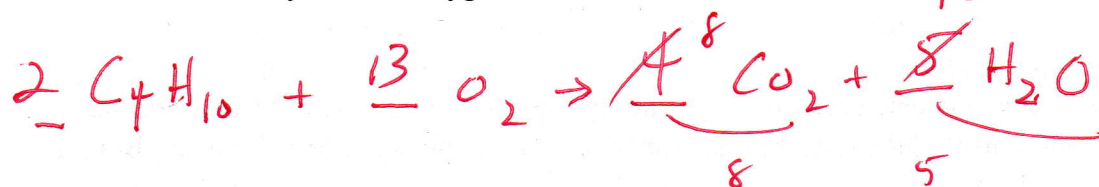
Part 3 – Translating Word Equations and Sentences to Balanced Chemical Equations

Use the following word equations and sentences to write balanced chemical equations.

1. aluminum metal + sulfur → aluminum sulfide



2. tetracarbon decahydride + oxygen → carbon dioxide + water



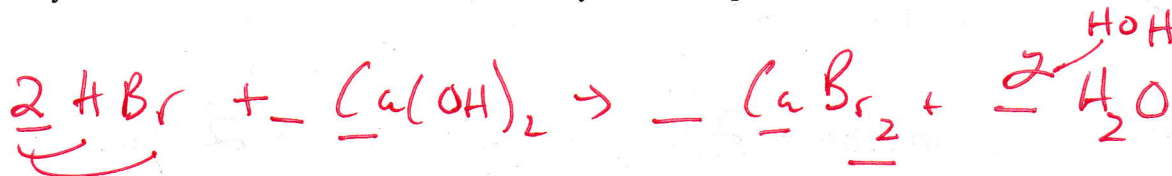
3. Barium metal reacts with nickel (III) fluoride to produce barium fluoride and nickel metal.



4. Niobium (V) iodide yields niobium metal and iodine.



5. Hydrobromic acid combines with calcium hydroxide to produce calcium bromide and water.



Part 4 – Acids and Bases

For each of the following ionic compounds, name the acid and base that reacted to form them.

	Salt	Acid	Base
a)	MgI ₂	hydroiodic acid	magnesium hydroxide
b)	AlBO ₃	bromic acid	aluminum hydroxide
c)	Cr(NO ₂) ₂	nitrous acid	chromium(II) hydroxide

Part 5 – Predicting Products

Predict the products for the following reactions, balance the equation, then classify the type of reaction:

