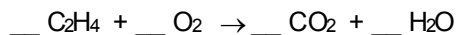


Reaction Types & Balancing Review

Chemistry

1. When the equation



is balanced using smallest whole numbers, what is the coefficient of the O_2 ?

- A) 1 B) 2 **C) 3** D) 4

2. Given the balanced equation with an unknown compound represented by X:



Which compound is represented by X?

- A) $\text{CH}_2(\text{OH})_4(\text{aq})$ B) $\text{CH}_3\text{OH}(\text{aq})$
C) $\text{CH}_2\text{OHCH}_2\text{OH}(\text{aq})$ **D) $\text{CH}_3\text{CH}_2\text{OH}(\text{aq})$**

3. Given the unbalanced equation:



What is the sum of the coefficients when the equation is completely balanced using the smallest whole number coefficients?

- A) 7** B) 5 C) 9 D) 11
-

4. $\text{N}_2(\text{g}) + 3 \text{H}_2(\text{g}) \leftrightarrow 2 \text{NH}_3(\text{g})$

What type of reaction is shown above?

- A) single replacement B) double replacement
C) decomposition **D) synthesis**

5. Based on Table F, which compound is *least* soluble in water?

- A) $\text{AgC}_2\text{H}_3\text{O}_2$ B) Li_2SO_4
C) AlPO_4 D) $\text{Ca}(\text{OH})_2$

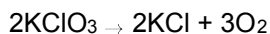
6. Which change results in the formation of different substances?

- A) deposition of $\text{CO}_2(\text{g})$ **B) burning of propane**
C) melting of $\text{NaCl}(\text{s})$ D) solidification of water

7. Which list includes three types of chemical reactions?

- A) solidification, double replacement, and decomposition
B) decomposition, single replacement, and solidification
C) decomposition, single replacement, and double replacement
D) solidification, double replacement, and single replacement

8. Given the balanced equation:



Which type of reaction is represented by this equation?

- A) double replacement B) synthesis
C) decomposition D) single replacement

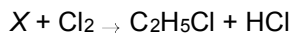
9. Given the word equation:

sodium chlorate \rightarrow sodium chloride + oxygen

Which type of chemical reaction is represented by this equation?

- A) double replacement B) synthesis
C) single replacement **D) decomposition**

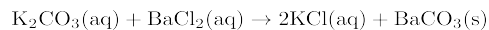
10. Given the balanced equation:



Which molecule is represented by X?

- A) C_3H_8 B) C_3H_6 C) C_2H_4 **D) C_2H_6**
-

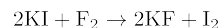
11. Given the balanced equation representing a reaction:



Which type of reaction is represented by this equation?

- A) synthesis
B) single replacement
C) double replacement
D) decomposition

12. Given the balanced equation:



Which type of chemical reaction does this equation represent?

- A) decomposition
B) double replacement
C) single replacement
D) synthesis

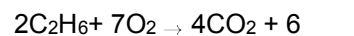
13. Given the unbalanced equation:



What is the coefficient of O_2 when the equation is balanced correctly using the *smallest* whole number coefficients?

- A) 1
B) 2
C) 3
D) 4

14. Given the incomplete equation for the combustion of ethane:



What is the formula of the missing product?

- A) HCOOH
B) **H_2O**
C) H_2O_2
D) CH_3OH

15. Which two solutions, when mixed together, will undergo a double replacement reaction and form a white, solid substance?

- A) $\text{NaCl}(\text{aq})$ and $\text{LiNO}_3(\text{aq})$
B) $\text{NaNO}_3(\text{aq})$ and $\text{AgNO}_3(\text{aq})$
C) $\text{KCl}(\text{aq})$ and $\text{AgNO}_3(\text{aq})$
D) $\text{KCl}(\text{aq})$ and $\text{LiCl}(\text{aq})$

16. Which balanced equation represents a single-replacement reaction?

- A) $\text{MgCO}_3 \rightarrow \text{MgO} + \text{CO}_2$
B) $2\text{Mg} + \text{O}_2 \rightarrow 2\text{MgO}$
C) $\text{Mg} + 2\text{AgNO}_3 \rightarrow \text{Mg}(\text{NO}_3)_2 + 2\text{Ag}$
D) $\text{MgCl}_2 + 2\text{AgNO}_3 \rightarrow 2\text{AgCl} + \text{Mg}(\text{NO}_3)_2$

17. According to Table F which compound is soluble in water?

- A) silver iodide
B) **sodium perchlorate**
C) calcium sulfate
D) barium phosphate

18. Given the balanced equation representing a reaction:



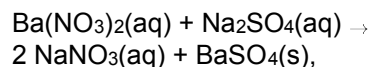
What is the *minimum* number of moles of O_2 that are needed to completely react with 16 moles of NH_3 ?

- A) 80. mol
B) 64 mol
C) 20. mol
D) 16 mol

19. When $\text{PbI}_2(\text{s})$ is added to $\text{Na}_2\text{CO}_3(\text{aq})$, a white precipitate is formed. According to Reference Table F, the white precipitate most likely is

- A) KNO_3
B) Na_2CO_3
C) PbCO_3
D) NaI

20. The reaction,



forms a precipitate whose name is

- A) barium sulfate**
B) barium nitrate
C) nitrogen
D) soluble salt

Answer Key
Reactions & Balancing Review 2017

1. **C**
 2. **D**
 3. **A**
 4. **D**
 5. **C**
 6. **B**
 7. **C**
 8. **C**
 9. **D**
 10. **D**
 11. **C**
 12. **C**
 13. **C**
 14. **B**
 15. **C**
 16. **C**
 17. **B**
 18. **C**
 19. **C**
 20. **A**
-