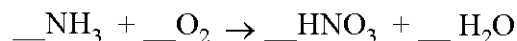


Practice Test for Chs. 7 & 8: Balancing Equations and Types of Reactions

1. Which equation shows a conservation of mass?

- (1) $\text{Na} + \text{Cl}_2 \rightarrow \text{NaCl}$ (3) $\text{H}_2\text{O} \rightarrow \text{H}_2 + \text{O}_2$
(2) $\text{Al} + \text{Br}_2 \rightarrow \text{AlBr}_3$ (4) $\text{PCl}_5 \rightarrow \text{PCl}_3 + \text{Cl}_2$

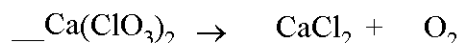
2. When the equation



is completely balanced using smallest whole numbers, the coefficient of O_2 would be

- (1) 1 (3) 3
(2) 2 (4) 4

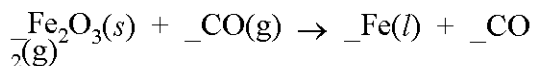
3. When the equation



is correctly balanced, the coefficient in front of the O_2 will be

- (1) 1 (3) 3
(2) 2 (4) 4

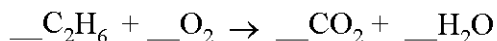
4. When the equation



is correctly balanced using the smallest whole numbers, the coefficient of $\text{Fe}(l)$ is

- (1) 1 (3) 3
(2) 2 (4) 4

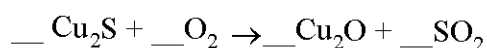
5. When the equation



is correctly balanced, the coefficient in front of O_2 will be

- (1) 7 (3) 3
(2) 10 (4) 4

6. When the equation

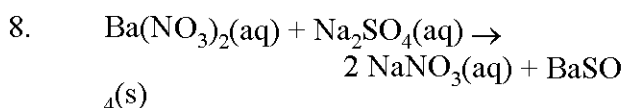


is completely balanced using smallest whole numbers the coefficient of the O_2 would be

- (1) 5 (3) 3
(2) 2 (4) 4

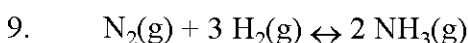
7. Which equation is correctly balanced?

- (1) $\text{CaO} + 2\text{H}_2\text{O} \rightarrow \text{Ca}(\text{OH})_2$
(2) $\text{NH}_3 + 2\text{O}_2 \rightarrow \text{HNO}_3 + \text{H}_2\text{O}$
(3) $\text{Ca}(\text{OH})_2 + 2\text{H}_3\text{PO}_4 \rightarrow \text{Ca}_3(\text{PO}_4)_2 + 3\text{H}_2\text{O}$
(4) $\text{Cu} + \text{H}_2\text{SO}_4 \rightarrow \text{CuSO}_4 + \text{H}_2\text{O} + \text{SO}_2$



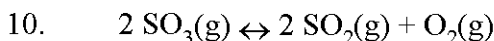
What type of reaction is shown above?

- (1) synthesis (3) single replacement
(2) decomposition (4) double replacement



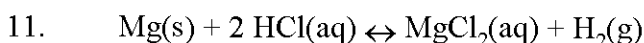
What type of reaction is shown above?

- (1) synthesis (3) single replacement
(2) decomposition (4) double replacement



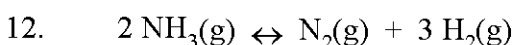
What type of reaction is shown above?

- (1) synthesis (3) single replacement
(2) decomposition (4) double replacement



What type of reaction is shown above?

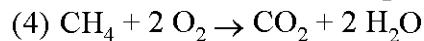
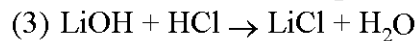
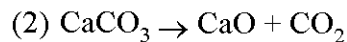
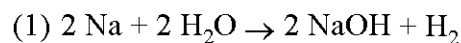
- (1) synthesis (3) single replacement
(2) decomposition (4) double replacement



What type of reaction is shown above?

- (1) synthesis (3) single replacement
(2) decomposition (4) double replacement

13. Which equation represents a double replacement reaction?

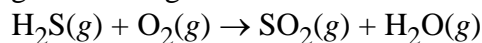


14. The equation $\text{N}_2 + 3\text{H}_2 \rightarrow 2\text{NH}_3$ means that 1 g of N_2 reacts with 3 g of H_2 to form 2 g of NH_3 .

[A] True

[B] False

15. Balance the following equation for the reaction where hydrogen sulfide gas burns in oxygen gas to form gaseous water and sulfur dioxide gas.



Give the symbol (or symbols) that necessary to indicate each of the following in a chemical reaction:

16. solid

17. liquid

18. gas

19. dissolved in water

20. "yields" (makes)

21. "yields in a reversible reaction"

22. "substance "X" is used as a catalyst when A yields B and C

23. List the diatomic elements:

24. In number 22, indicate the reactant(s) and the product(s)

Answer Key

1. 4

2. 2

3. 3

4. 2

5. 1

6. 3

7. 2

8. 4

9. 1

10. 2

11. 3

12. 2

13. 3

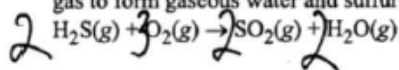
14. The equation $N_2 + 3H_2 \rightarrow 2NH_3$ means that 1 g of N_2 reacts with 3 g of H_2 to form 2 g of NH_3 .

[A] True

[B] False

"1 mol reacts w/ 3 mol, etc"

15. Balance the following equation for the reaction where hydrogen sulfide gas burns in oxygen gas to form gaseous water and sulfur dioxide gas.



(16) s

(17) l

(18) g

(19) aq

(20) \rightarrow

(21) \rightleftharpoons

(22) $A \xrightarrow{X} B + C$

(23) $H_2, N_2, O_2, F_2, Cl_2, Br_2, I_2$

(24) $A \xrightarrow{X} B + C$
 \uparrow reactant $\uparrow \uparrow$ products