1. What is the main difference between synthesis and other types of reactions?

A. Synthesis reactions always involve the formation of new bonds.
B. Synthesis reactions always involve the breaking of old bonds.
C. Synthesis reactions can involve the formation or breaking of bonds.

2. Which of the following is NOT a type of synthesis reaction?

A. Addition
B. Substitution
C. Elimination

3. Which of the following is an example of a synthesis reaction?

A. The combustion of methane
B. The decomposition of water
C. The formation of ammonia from nitrogen and hydrogen

4. What is the difference between a synthesis and a decomposition reaction?

A. Synthesis reactions always involve the formation of new bonds.
B. Synthesis reactions always involve the breaking of old bonds.
C. Synthesis reactions can involve the formation or breaking of bonds.
D. Decomposition reactions always involve the breaking of bonds.

5. Which of the following is an example of a decomposition reaction?

A. The combustion of methane
B. The decomposition of water
C. The formation of ammonia from nitrogen and hydrogen

6. What is the difference between a synthesis and a combination reaction?

A. Synthesis reactions always involve the formation of new bonds.
B. Synthesis reactions always involve the breaking of old bonds.
C. Synthesis reactions can involve the formation or breaking of bonds.
D. Combination reactions always involve the formation of new bonds.

7. Which of the following is an example of a combination reaction?

A. The combustion of methane
B. The decomposition of water
C. The formation of ammonia from nitrogen and hydrogen

8. What is the difference between a synthesis and a redox reaction?

A. Synthesis reactions always involve the formation of new bonds.
B. Synthesis reactions always involve the breaking of old bonds.
C. Synthesis reactions can involve the formation or breaking of bonds.
D. Redox reactions always involve the transfer of electrons.

9. Which of the following is an example of a redox reaction?

A. The combustion of methane
B. The decomposition of water
C. The formation of ammonia from nitrogen and hydrogen

10. What is the difference between a synthesis and a displacement reaction?

A. Synthesis reactions always involve the formation of new bonds.
B. Synthesis reactions always involve the breaking of old bonds.
C. Synthesis reactions can involve the formation or breaking of bonds.
D. Displacement reactions always involve the replacement of one element by another.

11. Which of the following is an example of a displacement reaction?

A. The combustion of methane
B. The decomposition of water
C. The formation of ammonia from nitrogen and hydrogen

12. What is the difference between a synthesis and a double replacement reaction?

A. Synthesis reactions always involve the formation of new bonds.
B. Synthesis reactions always involve the breaking of old bonds.
C. Synthesis reactions can involve the formation or breaking of bonds.
D. Double replacement reactions always involve the replacement of two elements.

13. Which of the following is an example of a double replacement reaction?

A. The combustion of methane
B. The decomposition of water
C. The formation of ammonia from nitrogen and hydrogen

14. What is the difference between a synthesis and a single replacement reaction?

A. Synthesis reactions always involve the formation of new bonds.
B. Synthesis reactions always involve the breaking of old bonds.
C. Synthesis reactions can involve the formation or breaking of bonds.
D. Single replacement reactions always involve the replacement of one element by another.

15. Which of the following is an example of a single replacement reaction?

A. The combustion of methane
B. The decomposition of water
C. The formation of ammonia from nitrogen and hydrogen

16. What is the difference between a synthesis and a neutralization reaction?

A. Synthesis reactions always involve the formation of new bonds.
B. Synthesis reactions always involve the breaking of old bonds.
C. Synthesis reactions can involve the formation or breaking of bonds.
D. Neutralization reactions always involve the combination of an acid and a base.

17. Which of the following is an example of a neutralization reaction?

A. The combustion of methane
B. The decomposition of water
C. The formation of ammonia from nitrogen and hydrogen

18. What is the difference between a synthesis and a precipitation reaction?

A. Synthesis reactions always involve the formation of new bonds.
B. Synthesis reactions always involve the breaking of old bonds.
C. Synthesis reactions can involve the formation or breaking of bonds.
D. Precipitation reactions always involve the formation of a solid.

19. Which of the following is an example of a precipitation reaction?

A. The combustion of methane
B. The decomposition of water
C. The formation of ammonia from nitrogen and hydrogen

20. What is the difference between a synthesis and an oxidation reaction?

A. Synthesis reactions always involve the formation of new bonds.
B. Synthesis reactions always involve the breaking of old bonds.
C. Synthesis reactions can involve the formation or breaking of bonds.
D. Oxidation reactions always involve the loss of electrons.

21. Which of the following is an example of an oxidation reaction?

A. The combustion of methane
B. The decomposition of water
C. The formation of ammonia from nitrogen and hydrogen

22. What is the difference between a synthesis and a reduction reaction?

A. Synthesis reactions always involve the formation of new bonds.
B. Synthesis reactions always involve the breaking of old bonds.
C. Synthesis reactions can involve the formation or breaking of bonds.
D. Reduction reactions always involve the gain of electrons.

23. Which of the following is an example of a reduction reaction?

A. The combustion of methane
B. The decomposition of water
C. The formation of ammonia from nitrogen and hydrogen

24. What is the difference between a synthesis and a hydrolysis reaction?

A. Synthesis reactions always involve the formation of new bonds.
B. Synthesis reactions always involve the breaking of old bonds.
C. Synthesis reactions can involve the formation or breaking of bonds.
D. Hydrolysis reactions always involve the breaking of bonds by water.

25. Which of the following is an example of a hydrolysis reaction?

A. The combustion of methane
B. The decomposition of water
C. The formation of ammonia from nitrogen and hydrogen

1. C
2. C
3. C
4. C
5. B
6. D
7. C
8. D
9. B
10. D
11. D
12. D
13. D

14. D
15. D
16. D
17. D
18. D
19. D
20. D
21. B
22. D
23. B
24. D
25. B