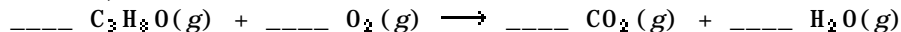


MULTIPLE CHOICE

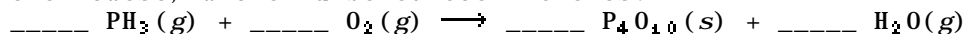
Section 3.1 Balancing Chemical Equations

1. What is the coefficient for oxygen when the following equation is balanced using the lowest, whole numbered coefficients?



- a) 3
b) 5
c) 7
d) 9

2. What is the **sum** of the coefficients when the following equation is balanced using the lowest, whole numbered coefficients?



- a) 10
b) 12
c) 19
d) 22

3. What is the **sum** of the coefficients when the following equation is balanced using the lowest, whole numbered coefficients?



- a) 8
b) 11
c) 15
d) none of these

4. Aluminum metal reacts with iron(II) sulfide to form aluminum sulfide and iron metal. What is the coefficient for aluminum when the equation is balanced using the lowest, whole-numbered coefficients?

- a) 1
b) 2
c) 3
d) 4

5. Calcium phosphate reacts with sulfuric acid to form calcium sulfate and phosphoric acid. What is the coefficient for sulfuric acid when the equation is balanced using the lowest, whole-numbered coefficients?

- a) 1
b) 2
c) 3
d) none of these

Section 3.3 Avogadro's Number and the Mole

6. What is the molar mass of calcium permanganate?

- a) 159 g/mol
b) 199 g/mol
c) 216 g/mol
d) 278 g/mol

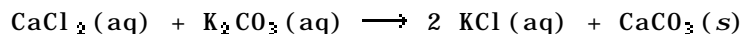
7. What is the molar mass of aspartic acid, $C_4O_4H_7N$?
a) 43 g/mol
b) 70 g/mol
c) 133 g/mol
d) 197 g/mol
8. How many grams does a single chlorine molecule, Cl_2 , weigh?
a) 5.887×10^{-23} g
b) 1.177×10^{-22} g
c) 35.45 g
d) 70.90 g
9. How many grams are there in 0.500 mol of dichlorodifluoromethane, CF_2Cl_2 ?
a) 4.14×10^{-3} g
b) 60.5 g
c) 121 g
d) 242 g
10. How many moles are there in 1.50 g of ethanol, CH_3CH_2OH ?
a) 0.0145 mol
b) 0.0326 mol
c) 30.7 mol
d) 69.0 mol
11. How many molecules are there in 5.00 g of $FeSO_4$?
a) 5.46×10^{-26} molecules
b) 1.98×10^{22} molecules
c) 1.83×10^{25} molecules
d) 4.58×10^{26} molecules
12. How many grams does 8.50×10^{22} molecules of NH_3 represent?
a) 0.00830 g
b) 0.417 g
c) 2.40 g
d) 120 g
13. How many oxygen atoms are there in 3.00 g of sodium dichromate, $Na_2Cr_2O_7$?
a) 0.0801 atoms
b) 9.85×10^{20} atoms
c) 6.90×10^{21} atoms
d) 4.83×10^{22} atoms
14. What mass of dinitrogen monoxide, N_2O , has the same number of molecules as 3.00 g of trichlorofluoromethane, CCl_3F ?
a) 0.320 g
b) 0.961 g
c) 1.04 g
d) 3.12 g

Section 3.4 Stoichiometry: Chemical Arithmetic

15. How many moles of CuO are produced from 0.450 mol of Cu_2O in the following reaction?
- $$2 \text{Cu}_2\text{O}(s) + \text{O}_2(g) \longrightarrow 4 \text{CuO}(s)$$

a) 0.225 mol
 b) 0.450 mol
 c) 0.900 mol
 d) 4.44 mol

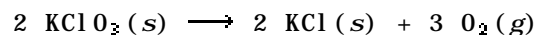
16. How many grams of calcium chloride are needed to produce 10.0 g of potassium chloride?



a) 3.36 g
 b) 7.44 g
 c) 14.9 g
 d) 29.8 g

Section 3.5 Yields of Chemical Reactions

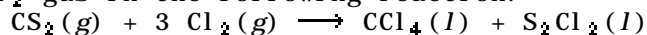
17. How many grams of KClO_3 are needed to produce 42.0 g of O_2 if the percent yield is 65.0%?



a) 69.7 g
 b) 82.5 g
 c) 165 g
 d) 371 g

Section 3.6 Reactions with Limiting Amounts of Reactants

18. How many grams of the excess reagent are left over when 6.00 g of CS_2 gas react with 10.0 g of Cl_2 gas in the following reaction:



a) 2.42 g
 b) 2.77 g
 c) 3.58 g
 d) 4.00 g

19. When silver nitrate reacts with barium chloride, silver chloride and barium nitrate are formed. How many grams of silver chloride are formed when 10 g of silver nitrate reacts with 15 g of barium chloride?

a) 8.44 g
 b) 10.3 g
 c) 20.6 g
 d) 29.1 g

Section 3.7 Concentrations of Reactants in Solution: Molarity

20. What is the concentration when 10.0 g of FeCl_3 is dissolved in enough water to make 275 mL of solution?

a) $2.24 \times 10^{-3} \text{ M}$
 b) 0.224 M
 c) 4.46 M
 d) $4.46 \times 10^3 \text{ M}$

21. How many grams of AgNO_3 are needed to make 250. mL of a solution that is 0.135 M?
- a) 1.99 g
 - b) 3.15 g
 - c) 5.73 g
 - d) 9.17 g

1. d)
2. c)
3. d)
4. b)
5. c)
6. d)
7. c)
8. b)
9. b)
10. b)
11. b)
12. c)
13. d)
14. b)
15. c)
16. b)
17. c)

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Chapter: 3	QUESTI ON:	29
Chapter: 3	QUESTI ON:	31
Chapter: 3	QUESTI ON:	37

18. a)

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19. a)

Chapter: 3 QUESTION: 45

20. b)

Chapter: 3 QUESTION: 49

21. c)

Chapter: 3 QUESTION: 50