Question 1: Which of the following percentage compositions does not correspond to one of the elements of C6H12O6?

A) 43.4%

B) 40.0%

C) 6.7%

D) 53.3%

Question 2: The maximum amount of IF7 that can be obtained from 25.0 g is fluorine is \_\_\_\_\_\_\_\_.

A) 63 g

B) 48.9 g

C) 24.5 g

D) 12.3 g

Question 3: Which contains the lowest percentage of hydrogen?

A) HCl

B) H2SO4

C) H3PO4

D) H2O

Question 4: The number of oxygen atoms present in 32.4 g of N2O5 is \_\_\_\_\_\_\_\_.

A) 5.00

B) 9.03 × 1023

C) 4.51 × 1023

D) 1.81 × 1023

Question 5: Which of the following compounds has its sulfur composition equal to 18.6%?

A) C6H8SO2N2

B) C7H14S

C) CH2SO2

D) COS

Question 6: The total number of atoms in two moles SO3 is \_\_\_\_\_\_\_\_.

A) 4

B) 8

C) 1.2 × 1024

D) 4.8 × 1024

Question 7: The mass of CaCl2 that contains 17.8 g of chlorine is \_\_\_\_\_\_\_\_.

A) 35.6 g

B) 53.4 g

C) 27.9 g

D) 20.5 g

Question 8: If 5.0 moles of ammonia is produced, then the number of hydrogen molecules consumed is \_\_\_\_\_\_\_\_.

A) 5.0

B) 7.5

C) 3.2

D) 1.0

Question 9: The theoretical number of moles of nitrogen produced from 6 moles of NaN3 is \_\_\_\_\_\_\_\_.

A) 2

B) 6

C) 9

D) 18

Question 10: Which of the following has the highest molar mass?

A) (NH4)3PO3

B) Ca3(PO4)2

C) Al2(SO3)3

D) Co2(CO3)2

Question 11: Which of the following compounds has its hydrogen composition equal to 2.4%?

A) C4H7Cl

B) CH2Cl2

C) C2H3NO2

D) C10H20ONS

Question 12: The percent yield of an experiment in which 2.0 moles of NaN3 was used and 21 g of nitrogen was isolated is \_\_\_\_\_\_\_\_.

A) 100%

B) 50%

C) 37.5%

D) 25%

Question 13: What is the mass in grams of 1.000 mole of P2O5?

A) 239.03 g

B) 61.96 g

C) 142.0 g

D) 46.98 g

Question 14: 14 g of nitrogen will react with \_\_\_\_\_\_\_\_ g of oxygen.

A) 8

B) 16

C) 32

D) 64

Question 15: Determine the percent yield of an experiment in which 1 mole of C2H6O was consumed and 22 g of carbon dioxide was isolated.

A) 100%

B) 50%

C) 37.5%

D) 25%

Question 16: An iron oxide is 70.0% in iron. Its empirical formula is \_\_\_\_\_\_\_\_.

A) FeO

B) Fe2O

C) Fe2O3

D) Fe3O4

Question 17: What is the theoretical mass of carbon dioxide produced from one mole of C2H6O?

A) 6 g

B) 44 g

C) 88 g

D) 176 g

Question 18: A sample of oxygen gas that contains Avogadro's number of molecules has a mass of \_\_\_\_\_\_\_\_.

A) 8.0 g

B) 16.0 g

C) 32.0 g

D) 64.0 g

Question 19: The molar mass for Pb(CO3)4 is \_\_\_\_\_\_\_\_.

A) 447

B) 409

C) 327

D) 303

Question 20: 0.02 moles of a certain aluminum compound has a mass of 1.56 g. This compound may be \_\_\_\_\_\_\_\_.

A) aluminum hydroxide

B) aluminum nitrate

C) aluminum cyanide

D) aluminum permanganate

Question 21: The molecular mass of a compound X(NO3)3 is 213. The atomic mass of X is \_\_\_\_\_\_\_\_, which is \_\_\_\_\_\_\_\_.

A) 27; Al

B) 51; V

C) 56; Fe

D) 59; Co

Question 22: The number of atoms in 2.4 g of magnesium metal is \_\_\_\_\_\_\_\_.

A) 6.0 × 1022

B) 3.7 × 1022

C) 2.5 × 1022

D) 1.7 × 1022

Question 23: 0.05 moles of a certain compound has a mass of 17.1 g. This compound may be \_\_\_\_\_\_\_\_.

A) aluminum sulfate

B) lead (II) chloride

C) cobalt (III) oxide

D) magnesium carbonate

Question 24: What is the theoretical mass of carbon dioxide produced from one mole of C6H14?

A) 6 g

B) 44 g

C) 132 g

D) 264 g

Question 25: Which of the following compounds has its combined carbon and oxygen composition equal to 76.7%?

A) C4H7Cl

B) CH2O2

C) C2H3NO2

D) C10H20ONS