Exam 1 Revision

1- The SI unit of **Mass** is

A. Second
B. Mole
C. Candela
D. Kilogram

2- The SI prefixes ***Pico***- represents:

A. 10^{-12}
B. 10^{12}
C. 10^{3}
D. 10^{9}

3- convert 1×10^{4} ***centigram*** to ***kilogram***:

A. 1×10^{-3}
B. 1×10^{3}
C. 1×10^{9}
D. 1×10^{-1}

4- How many liters are there in $\mathbf{3 \times 10^{4}\ m^{3}}$?

A. 3×10^{4} L

B. 3 L

C. 3×10^{-1} L

D. 3×10^{7} L

5- What temperature is -60 °F when converted to degrees Celsius?

A. -51.1
B. 51.1
C. 333
D. 213

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6- A solid ball has a mass of 50 grams and a volume of 20 cm^3. What is the density?

A. 2.5 g/cm^3
B. 0.4 g/cm^3
C. 100 g/cm^3
D. 20 g/cm^3

7- How many neutrons are there in an atom of uranium whose mass number is 235?

A. 92
B. 143
C. 235
D. 238

8- An atom of the isotope Calcium-42, consists of how many protons, neutrons, and electrons (p , n, e)

A. 20p, 42n, 20e

B. 20p, 22n, 20e

C. 20p, 22n, 22e

D. 20p, 20n, 20e

9- I^- consists of how many protons, and electrons? (p = proton, e = electron)

A. 53 p, 53 e
B. 54 p, 54 e
C. 53 p, 54 e
D. 53 p, 52 e

10- Which one of the following is a diatomic molecule?

A. B^{3+}
B. NaCl
C. He
D. ^{14}C

11- Which one of these species is an ion?

A. Zr^{4+}

B. NaCl

C. ^{19}F

D. Fe

12- Which of the following elements is chemically similar to oxygen?

A. Sulfur
B. calcium
C. iron
D. nickel

13- The Stock system name for CuO is

A. copper monoxide.
B. copper oxide.
C. copper(II) oxide.
D. copper(I) oxide.

14- The correct name for NI_3 is

A. Nitrogen triiodide
B. Nitrogen triiodine.
C. Nitrogen iodide
D. Nitrogen(III) triiodide

15- How many molecules are there in 3 g of NH_3?

A. 1.081×10^{-23}
B. 23.00
C. 4
D. 1.061×10^{23}

16- How many atoms are there in 1.90 moles of cadmium Cd?

A. 3.07×10^{24}
B. 1.14×10^{24}
C. 6.02×10^{23}
D. 9.59×10^{22}

17- How many atoms of carbon are in 2.5 mol of C_2H_6O?

A. 3.01×10^{24} atoms C
B. 3.01×10^{-24} atoms C
C. 1.5×10^{20} atoms C
D. 5.0×10^{24} atoms C

18- Determine the empirical formula of a compound with the following composition by mass: 48.0 % C, 4.0 % H and 48.0 % O.

A. $C_2H_2O_3$
B. CHO
C. $C_4H_4O_3$
D. CHO_3

19- What is the molecular formula of a compound has [$C_5H_{12}N_2$] empirical formula and has a molar mass of 300 g/mol

A. $C_{15}H_{36}N_6$

B. $C_{10}H_{12}N_4$

C. $C_5H_{12}N_2$

D. $C_{15}H_{36}N_2$

20- What is the coefficient of O_2 when the following equation is properly balanced with the smallest set of whole numbers?

$$C_2H_6 + O_2 \rightarrow CO_2 + H_2O$$

A. 14
B. 4
C. 2
D. 7

21 - What volume of 2.50 M $KMnO_4$ solution is needed to prepare 300 mL of 0.350 M $KMnO_4$?

A. 3 ml
B. 42 ml
C. 101 ml
D. 55 ml

22- What is the molecular mass of potassium nitrate?

A. 101.1
B. 90
C. 95.5
D. 70

23- convert 3.2 ***gigameter*** to ***decimeter***:

A. $3.2x10^{10}$
B. $3.2x10^{8}$
C. $3.2x10^{-10}$
D. $3.2x10^{-8}$

24- How many cubic meters are there in ***9.0 cm^3*** :

A. $9.0\ x10^{6}$
B. $9.0x10^{-6}$
C. $9.0\ x10^{-2}$
D. $9.0\ x10^{-5}$

25- Which of the following elements is most likely to be a good conductor of electricity?

A. Si
B. O_2
C. Ar
D. Mg

26- The formula for calcium phosphate is

A. $CaPO_4$
B. $Ca_3(PO_4)_2$
C. $Ca_2(PO_4)_3$
D. Ca_3P_2

27- The correct name for Li_2S is

A. Lithium sulfide
B. Dilithium monosulfide
C. Lithium (II) sulfide
D. Lithium (I) sulfide (II)

28- a noble gas is an element of group Number

A. 1A
B. 2A
C. 7A
D. 8A

29- Ammonia, NH_3, can be synthesized by the following reaction:

$$2NO(g) + 5H_2(g) \rightarrow 2NH_3(g) + 2H_2O(g)$$

Starting with 86.3 g NO and 25.6 g H_2. Which reagent is the limiting regent and find the theoretical yield of ammonia in grams.

A. NO limiting; 86 g NH_3
B. H_2 limiting; 49.0 g NH_3
C. NO limiting; 49.0 g NH_3
D. H_2 limiting; 25 g NH_3

30- when 55 g NaCl mixed with 40g $AgNO_3$ and 30.5 g AgCl formed. What is the %yield of AgCl ?

$$NaCl + AgNO_3 \rightarrow AgCl + NaNO_3$$

A. 90%
B. 76%
C. 55%
D. 23%