**UNIT 5: MOLE REVIEW**

1) Define ‘mole’ and give its conversion.

2) What is the difference between ‘atomic mass’ and ‘molar mass’?

3) What is the molar mass of Zn?

4) What is the molar mass of N2?

5) What is the molar mass of CaBr2?

6) What is the molar mass of Al2(CO3)3?

7) What is the mass of 0.874 mol of C3H8?

8) How many moles in 5.6g of Mg(OH)2?

9) How many molecules in 0.0235 moles of caffeine?

10) How many moles is 7.34 x 1020 atoms of Titanium?

11) How many atoms in 5.67 x 10-7 moles of Li2CO3?

12) How many atoms in 4.56g of Ca(OH)2?

13) What is the mass of 8.74 x 1021 molecules of BaI2?

14) What volume does 0.0498 mol of O2 gas occupy?

15) What is the mass of 14.58L of CH4 gas?

16) What volume does 7.25 x 1020 molecules of SO2 gas occupy?

17) Find the % composition of Na2O.

18) Find the % composition of Ca(NO3)2.

19) A compound contains 72.4% Fe and 27.6% O. What is its empirical formula?

20) A gas has an empirical formula of CH4. If 0.600L of the gas has a mass of 1.70g, calculate the molecular formula.

**ANSWERS:**

1) \*see notes

2) \*see notes

3) 65.4g/mol

4) 28.0g/mol

5) 199.9g/mol

6) 234.0g/mol

7) 38.5g

8) 0.096mol

9) 1.41 x 1022 molecules

10) 1.22 x 10-3 mol

11) 2.05 x 1018 atoms

12) 1.85 x 1023 atoms

13) 5.68g

14) 1.12L

15) 10.4g

16) 0.0270L

17) Na: 74.2%, O: 25.8%

18) Ca: 24.4%, N: 17.1%, O: 58.5%

19) Fe3O4

20) C4H16