

Name: _____

- ___ 1) A binary compound of sodium is
 1) sodium chloride
 2) sodium perchlorate
 3) sodium chlorate
 4) sodium chlorite
- ___ 2) How many oxygen atoms are represented by the formula $\text{Al}_2(\text{CO}_3)_3$?
 1) 10
 2) 9
 3) 3
 4) 6
- ___ 3) Vitamin C has an empirical formula of $\text{C}_3\text{H}_4\text{O}_3$ and a molecular mass of 176. What is the molecular formula of vitamin C?
 1) $\text{C}_9\text{H}_{12}\text{O}_9$
 2) $\text{C}_6\text{H}_8\text{O}_6$
 3) $\text{C}_{10}\text{H}_8\text{O}_3$
 4) $\text{C}_3\text{H}_4\text{O}_3$
- ___ 4) Which formula correctly represents the compound calcium hydroxide?
 1) Ca_2OH
 2) $\text{Ca}(\text{OH})_2$
 3) CaOH
 4) CaOH_2
- ___ 5) Which formula is correctly paired with its name?
 1) CuCl_2 — copper (II) chloride
 2) K_2O — phosphorus dioxide
 3) FeO — iron (III) oxide
 4) MgCl_2 — magnesium chlorine
- ___ 6) What is the empirical formula of a compound with the molecular formula $\text{C}_6\text{H}_{12}\text{O}_6$?
 1) $\text{C}_2\text{H}_4\text{O}_2$
 2) $\text{C}_3\text{H}_6\text{O}_2$
 3) CH_2O
 4) $\text{C}_4\text{H}_8\text{O}_4$
- ___ 7) What is the gram molecular mass of calcium nitrate, $\text{Ca}(\text{NO}_3)_2$?
 1) 102 g
 2) 70.0 g
 3) 164 g
 4) 150. g
- ___ 8) What is the percent by mass of oxygen in $\text{Ca}(\text{OH})_2$?
 1) 43
 2) 74
 3) 16
 4) 22
- ___ 9) An example of an empirical formula is
 1) C_2H_2
 2) H_2O_2
 3) C_2Cl_2
 4) CaCl_2
- ___ 10) What is the gram molecular mass of $\text{Ca}_3(\text{PO}_4)_2$?
 1) 310. g
 2) 279 g
 3) 246 g
 4) 342 g
- ___ 11) What is the percent by mass of nitrogen in NH_4NO_3 (formula mass = 80)?
 1) 35%
 2) 18%
 3) 23%
 4) 32%
- ___ 12) What is the percent by mass of aluminum in Al_2O_3 ?
 1) 47.1
 2) 35.4
 3) 18.9
 4) 52.9
- ___ 13) Which gas sample contains a total of 3.0×10^{23} molecules?
 1) 14 g of N_2
 2) 2.0 g of H_2
 3) 38 g of F_2
 4) 71 g of Cl_2
- ___ 14) What is the formula for lead (II) oxide?
 1) Pb_2O
 2) PbO
 3) Pb_2O_3
 4) PbO_2
- ___ 15) What is the correct chemical formula for iron (III) oxide?
 1) Fe_3O
 2) FeO_3
 3) Fe_2O_3
 4) Fe_3O_2
- ___ 16) Which molecular formula is correctly paired with its corresponding empirical formula?
 1) CO_2 and CO
 2) C_2H_2 and CH_2
 3) C_6H_6 and C_2H_2
 4) P_4O_{10} and P_2O_5

- ___ 17) The correct formula for the thiosulfate ion is
- 1) SCN^-
 - 2) SO_4^{2-}
 - 3) $\text{S}_2\text{O}_3^{2-}$
 - 4) SO_3^{2-}
- ___ 18) What is the mass, in grams, of 1.0 mole of $(\text{NH}_4)_2\text{S}$?
- 1) 54 g
 - 2) 64 g
 - 3) 68 g
 - 4) 50 g
- ___ 19) A compound consists of 85% silver and 15% fluorine by mass. What is its empirical formula?
- 1) AgF
 - 2) Ag_6F
 - 3) Ag_2F
 - 4) AgF_2
- ___ 20) Which of the following is the formula of a binary compound?
- 1) $\text{Bi}(\text{NO}_3)_3$
 - 2) Al_2S_3
 - 3) NaClO_3
 - 4) KOH
- ___ 21) A compound contains 0.5 mole of sodium, 0.5 mole of nitrogen, and 1.0 mole of hydrogen. The empirical formula of the compound is
- 1) Na_2NH
 - 2) NaNH
 - 3) NaNH_2
 - 4) $\text{Na}(\text{NH})_2$
- ___ 22) What is the formula for titanium (III) oxide?
- 1) TiO
 - 2) Ti_2O_3
 - 3) Ti_3O_2
 - 4) Ti_2O_4
- ___ 23) What is the formula for ammonium carbonate?
- 1) NH_4CO_3
 - 2) $(\text{NH}_4)_2(\text{CO}_3)_2$
 - 3) $(\text{NH}_4)_2\text{CO}_3$
 - 4) $\text{NH}_4(\text{CO}_3)_2$
- ___ 24) What is the total number of atoms represented in the formula $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$?
- 1) 13
 - 2) 21
 - 3) 8
 - 4) 27
- ___ 25) The total number of calcium atoms in 80.0 grams of calcium is
- 1) 3.01×10^{23}
 - 2) 12.0×10^{23}
 - 3) 6.02×10^{23}
 - 4) 24.0×10^{23}
- ___ 26) What is the empirical formula of a compound whose composition by mass is 40.% sulfur and 60.% oxygen?
- 1) S_2O_3
 - 2) SO_3
 - 3) S_2O_7
 - 4) SO_2
- ___ 27) What is the correct formula for sodium oxide?
- 1) SO_2
 - 2) S_2O
 - 3) Na_2O
 - 4) NaO_2
- ___ 28) What is the molecular formula of a compound with an empirical formula of CH and a molecular mass of 78?
- 1) CH
 - 2) C_2H_2
 - 3) C_4H_{10}
 - 4) C_6H_6
- ___ 29) What is the correct chemical formula for sodium sulfate?
- 1) NaSO_4
 - 2) Na_2SO_4
 - 3) NaSO_3
 - 4) Na_2SO_3
- ___ 30) How many molecules are in 0.25 mole of CO ?
- 1) 9.0×10^{23}
 - 2) 3.0×10^{23}
 - 3) 6.0×10^{23}
 - 4) 1.5×10^{23}