- What is the total number of electrons in an Mg+2 ion?
 1) 2 2) 10 3) 12 4) 14
- CI would have a partial positive (δ+) charge when bonded to 1) O 2) H 3) Br 4) Na
- 3) Which molecule contains a nonpolar covalent <u>bond</u>?
 1) HBr 2) I₂ 3) CO₂ 4) NH₃
- 4) Which compound contains **ionic** bonds? 1) NaBr 2) HBr 3) C₆H₁₂O₆ 4) CO₂
- 5) Which of the following compounds has **both** ionic & covalent bonds? 1) MgO 2) P_2O_5 3) CaCO₃ 4) O₃
- 6) Which <u>molecule</u> is **nonpolar**? 1) HCl 2) CO₂ 3) NH₃ 4) H₂O
- 7) Which molecule contains a **triple** covalent bond? 1) H₂ 2) O₂ 3) N₂ 4) F₂
- 8) Which bond has the **least** ionic character? 1) H-Cl 2) H-F 3) Br-Cl 4) Br-F

9) The **three dimensional pattern** in which the ions in an ionic compound are arranged is called the crystal 1)ladder 2) arrangement 3) lattice 4) cube

- 10) Which molecule is a **dipole**? 1) H_2 2) N_2 3) CH_4 4) NH_3
- 11) When an atom loses electrons it forms a ______charged ion.1) positively 2) negatively 3) neutrally
- 12) Which of the following is the correct electron dot diagram of **MgO**? 1) [: Mg:]⁺² [: O:]⁻² 2) [Mg]⁺² [: O:]⁻² 3) : Mg:O: 4) Mg:O:

13-16) Matching

1) NH₃ 2) H₂O 3) H₂ 4) CO₂ 5) CH₄

- 13) Has an angular shape.
- 14) Is a diatomic molecule.
- 15) Has 3 bonding pairs & 1 lone pair of electrons around the central atom.
- 16) Has 2 double bonds.
- 17) Which is the following molecules is a **dipole**? 1) CH_4 2) Br_2 3) NH_3 4) O_2
- 18) Which of the following molecules has a bent (angular) shape?
 1) NO
 2) CO₂
 3) H₂O
 4) CH₄
- 19) Which is the formula of a **polar** <u>molecule</u> containing polar covalent bonds?
 1) CO₂ 2) NH₃ 3) F₂ 4) CH₄

20) As the distance between two N_2 molecules increases , the London Dispersion forces between them 1) increase 2) decrease 3) remain the same
 21) Which of the following compounds would have the highest normal boiling point? 1) H₂O 2) H₂S 3) H₂Se 4) H₂Te
 22) For which Noble Gas are London Dispersion forces the strongest? 1) He 2) Ne 3) Ar 4) Kr 5) Rn
 23) The weakest <u>intermolecular</u> attraction is 1) Dipole-Dipole 2) Hydrogen bonding 3) London Dispersion
 24) Turning N₂ gas into a liquid requirespressure &temperature. 1) high, high 2) high, low 3) low, high 4) low, low
25) When hydrogen is bonded to, the molecules involved are attracted by hydrogen bonds 1) F, Cl, Br 2) F, O, Cl 3) F, O, N 4) F, U, N
 26) Referring to the previous question, these atoms haveelectronegativities andatomic radii. 1) Low, Small 2) Low, Large 3) High, Small 4) High, Large
Matching: (1) Dipole-Dipole attractions (2) Hydrogen bonding (3) London Dispersion forces (4) Ionic Bonds (5) Covalent Bonds
27) hold the atoms together in a molecule of N_2
28) the attraction that exists between CO ₂ molecules in dry ice.
29) account for the abnormally high boiling point water and low density of ice.
30) are formed whenever a metal reacts with a nonmetal .

31) the attraction that exists **between** HCI molecules.

32) **increase** in strength as the size of the molecules **increases**.

33) the bond **between** H and F in HF