

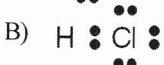





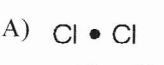



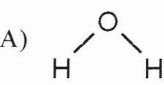
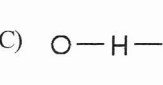
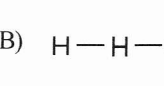
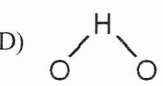




- 23) Which substance is an ionic solid?  
 A) Fe  
 B) Ne  
 C) HCl  
 D) LiCl
- 24) Which type of bonds are formed when calcium atoms react with oxygen atoms?  
 A) polar covalent  
 B) ionic  
 C) coordinate covalent  
 D) hydrogen
- 25) A characteristic of ionic solids is that they  
 A) have low boiling points  
 B) have high melting points  
 C) conduct electricity  
 D) are noncrystalline
- 26) Which type of bonding is characteristic of a substance that has a high melting point and electrical conductivity only in the liquid phase?  
 A) ionic  
 B) metallic  
 C) nonpolar covalent  
 D) coordinate covalent
- 27) A crystalline solid has a high melting point and is a good conductor of electricity in the liquid state. This solid could be  
 A) Hg  
 B) C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>  
 C) CO<sub>2</sub>  
 D) KCl
- 28) A white crystalline salt conducts electricity when it is melted and when it is dissolved in water. Which type of bond does this salt contain?  
 A) ionic  
 B) covalent  
 C) network  
 D) metallic
- 29) Which substance will conduct electricity in *both* the solid phase and the liquid phase?  
 A) H<sub>2</sub>  
 B) AgCl  
 C) HCl  
 D) Ag
- 30) The electrical conductivity of KI(aq) is *greater* than the electrical conductivity of H<sub>2</sub>O because the KI(aq) contains mobile  
 A) molecules of KI  
 B) molecules of H<sub>2</sub>O  
 C) ions from KI  
 D) ions from H<sub>2</sub>O
- 31) A chemical formula is an expression used to represent  
 A) compounds, only  
 B) elements, only  
 C) mixtures, only  
 D) compounds and elements
- 32) Which atoms are most likely to form covalent bonds?  
 A) metal atoms that share protons  
 B) metal atoms that share electrons  
 C) nonmetal atoms that share protons  
 D) nonmetal atoms that share electrons
- 33) When two atoms form a chemical bond by sharing electrons, the resulting molecule will be  
 A) neither polar nor nonpolar  
 B) polar, only  
 C) nonpolar, only  
 D) either polar or nonpolar
- 34) The bonds present in silicon carbide (SiC) are  
 A) metallic  
 B) covalent  
 C) van der Waals  
 D) ionic
- 35) Which statement is true concerning the reaction  $N(g) + N(g) \rightarrow N_2(g) + \text{energy}$ ?  
 A) A bond is broken and energy is absorbed.  
 B) A bond is formed and energy is released.  
 C) A bond is formed and energy is absorbed.  
 D) A bond is broken and energy is released.
- 36) The correct electron dot formula for hydrogen chloride is  
 A)  C)   
 B)  D) 
- 37) Which electron dot diagram represents H<sub>2</sub>?  
 A)  C)   
 B)  D) 
- 38) Which is the correct electron-dot formula for a molecule of chlorine?  
 A)  C)   
 B)  D) 
- 39) Which diagram *best* represents the structure of a water molecule?  
 A)  C)   
 B)  D) 
- 40) Which formula represents a tetrahedral molecule?  
 A) CaCl<sub>2</sub>  
 B) CH<sub>4</sub>  
 C) Br<sub>2</sub>  
 D) HBr
- 41) The four single bonds of a carbon atom are spatially directed toward the corners of a regular  
 A) rectangle  
 B) square  
 C) tetrahedron  
 D) triangle
- 42) Two atoms of element *A* unite to form a molecule with the formula *A*<sub>2</sub>. The bond between the atoms in the molecule is  
 A) ionic  
 B) nonpolar covalent  
 C) polar covalent  
 D) electrovalent

