

(18) 1. For each of the following compounds, write a correct formula:

- a) Magnesium hydroxide _____
- b) Lithium sulfate _____
- c) Ammonium phosphide _____
- d) Chlorous acid _____
- e) Calcium phosphite _____
- f) Barium bromate _____
- g) Potassium chromate _____
- h) Hydroiodic acid _____
- i) Sodium permanganate _____

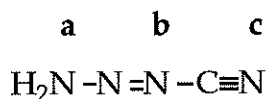
(18) 2. Complete the following table:

Formula	Geometry around central atom	Species shape	Hybridization of central atom
ClO_2^{-1}	_____	_____	_____
NO_2^{+1}	_____	_____	_____
IO_4^{-1}	_____	_____	_____
SbF_4^{-1}	_____	_____	_____
XeO_3	_____	_____	_____
SO_3	_____	_____	_____

(4) 3. Which one of the following species is planar?

- a) NH_3 b) AsH_5 c) CCl_4 d) SO_3^{-2} e) NO_3^{-1}

- (4) 11. Supply any missing electrons in the partial Lewis dot structure provided for the molecule shown below, and specify the hybridization of the atoms in boldface (in the order written from left to right):



- a) sp^3, sp^2, sp b) sp^3, sp, sp^2 c) sp^2, sp^2, sp d) sp^3, sp, sp e) sp^2, sp, sp
- (4) 12. Which one of the following compounds is least likely to exhibit ionic bonding?
- a) SnF_2 b) IF_5 c) AlF_3 d) ZnF_2 e) KF
- (4) 13. In which one of the following species do all atoms obey the Octet rule?
- a) NO_2 b) BrF_3 c) XeO_2 d) TeF_3^{-1} e) SeF_4
- (4) 14. London (van der Waals) forces represent the principal intermolecular attractive force in:
- a) CS_2 b) H_2O c) CHCl_3 d) PH_3 e) O_3
- (4) 15. Which one of the following salts has the lowest melting point?
- a) NaCl b) CaS c) MgO d) RbBr e) Li_3N
- (4) 16. Which one of the following compounds has the lowest boiling point?
- a) SnH_4 b) GeH_4 c) SiH_4 d) CH_4
- (4) 17. Which one of the following compounds would be expected to have the highest heat of vaporization?
- a) CH_2Cl_2 b) F-O-F c) $\text{CH}_3\text{-S-CH}_3$ d) $\text{CH}_3\text{CH}_2\text{CH}_3$ e) $\text{H}_2\text{N}(\text{CH}_2)_3\text{NH}_2$
- (4) 18. Which one of the following is indicative of weak intermolecular forces of attraction in a liquid?
- a) high freezing point b) high boiling point
c) high vapor pressure d) high heat of vaporization