

Unit 2 Bonding AP chem solutions MCQ -set 2

Molecular and Ionic Compound Structure and Properties

Multiple Choice VI

Name: _____

CALCULATORS CANNOT BE USED IN THIS SECTION

1. A bond between which two elements is most polar?
(A) N – O
(B) B – F
(C) F – F
(D) B – O
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2. Which of the following molecules has the largest dipole moment?
(A) CO₂
(B) NF₃
(C) PH₃
(D) H₂O
—
3. Which of the following compounds has the highest melting point?
(A) LiF
(B) NaF
(C) KF
(D) BeF₂
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4. The central atom in a molecule displays sp² hybridization. What shape do the charge clouds make?
(A) Linear
(B) Trigonal Planar
(C) Tetrahedral
(D) Trigonal pyramidal
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5. Which of the following structures has two lone pairs around the central atom?
(A) BrF₃
(B) XeF₂
(C) BrF₅
(D) O₃
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6. A single bond between which two atoms would have the longest bond length?

- (A) Si – N
- (B) Si – Cl
- (C) Si – Br
- (D) Si – I

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7. Which of the following compounds is most ionic in character?

- (A) Al_2Cl_3
- (B) NO_2
- (C) PF_3
- (D) KF

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Questions 8 – 10 refer to the following choices.

- (A) Bonds result from electrostatic forces of attraction between cations and anions.
- (B) The entire structure is held together with sigma bonds.
- (C) The structure is held together with sigma bonds and a π bond.
- (D) The structure contains two double bonds.

8. C_2H_4

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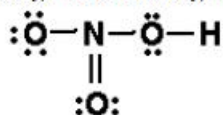
9. CO_2

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10. RbF

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11. Calculate the formal charge on the nitrogen atom in the following structure.



- (A) +2
- (B) +1
- (C) 0
- (D) -1