COVALENT BONDING AND MOLECULAR STRUCTURE Name:_____ Per___ Date:_____

Draw the Lewis Structure and using VSEPR, determine the electron geometry and the molecular geometry of the molecule. Then, draw the orbital notation for the central atom and determine **if** the orbitals are hybridized, which form them take (sp, sp^2, sp^3, sp^3d, sp^3d^2), the geometry of the hybrid orbitals and the bond angle (in degrees) of the following compounds:

1. BeF_2

Lewis Structure:	Electron Geometry:	Molecular Geometry:
Orbital Notation: [ ] __ __ __ __ __ __ __ __ __	Hybridization Orbital Notation: Type:	Molecular Geometry: Bond Angle:

2. H_2O

Lewis Structure:	Electron Geometry:	Molecular Geometry:
Orbital Notation: [ ] __ __ __ __ __ __ __ __ __	Hybridization Orbital Notation: Type:	Molecular Geometry: Bond Angle:

3. BCl_3

Lewis Structure:	Electron Geometry:	Molecular Geometry:
Orbital Notation: [ ] __ __ __ __ __ __ __ __ __	Hybridization Orbital Notation: Type:	Molecular Geometry: Bond Angle:

4. NH_3

Lewis Structure:	Electron Geometry:	Molecular Geometry:
Orbital Notation: [ ] __ __ __ __ __ __ __ __ __	Hybridization Orbital Notation: Type:	Molecular Geometry: Bond Angle:

5. CH_4

Lewis Structure:	Electron Geometry:	Molecular Geometry:
Orbital Notation: [ ] __ __ __ __ __ __ __ __ __	Hybridization Orbital Notation: Type:	Molecular Geometry: Bond Angle:

6. XeF_4

Lewis Structure:	Electron Geometry:	Molecular Geometry:
Orbital Notation: [ ] __ __ __ __ __ __ __ __ __	Hybridization Orbital Notation: Type:	Molecular Geometry: Bond Angle:

7. ClF_5

Lewis Structure:	Electron Geometry:	Molecular Geometry:
Orbital Notation: [ ] __ __ __ __ __ __ __ __ __	Hybridization Orbital Notation: Type:	Molecular Geometry: Bond Angle:

8. ClF_3

Lewis Structure:	Electron Geometry:	Molecular Geometry:
Orbital Notation: [ ] __ __ __ __ __ __ __ __ __	Hybridization Orbital Notation: Type:	Molecular Geometry: Bond Angle:

9. SF_4

Lewis Structure:	Electron Geometry:	Molecular Geometry:
Orbital Notation: [ ] __ __ __ __ __ __ __ __ __	Hybridization Orbital Notation: Type:	Molecular Geometry: Bond Angle:

10. OF_2

Lewis Structure:	Electron Geometry:	Molecular Geometry:
Orbital Notation: [ ] __ __ __ __ __ __ __ __ __	Hybridization Orbital Notation: Type:	Molecular Geometry: Bond Angle: