**Northern Arizona University** **Quiz #9**
**CHM 151, General Chemistry I** Dr. Brandon Cruickshank
**Section 6, Fall 2008** November 13, 2008

**Names** _____, _____, _____, _____

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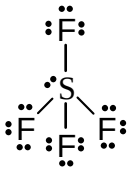
Given the correct Lewis structure below, answer the following questions. [5 pts]



**1.** What is the **electron pair arrangement** of the central atom?

a) linear b) trigonal planar c) tetrahedral **d) trigonal bipyramidal** e) octahedral

**2.** What is the **molecular geometry (shape)** about the central atom?

a) trigonal pyramid b) tetrahedral **c) see-saw** d) square planar e) trigonal bipyramidal

**3.** What is/are the **bond angle(s)** in the molecule?

a) 90°, 180° **b) 90°, 120°, 180°** c) 109° d) 120° e) 90°, 120°

**4.** What is the **polarity** of the molecule?

a) nonpolar **b) polar**

**5.** What **hybrid orbitals** are used by the central atom in bonding?

a) *sp* b) $sp^2$ c) $sp^3$ **d) $sp^3d$** e) $sp^3d^2$

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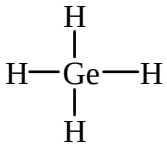
Given the correct Lewis structure below, answer the following questions. [5 pts]



**6.** What is the **electron pair arrangement** of the central atom?

a) linear b) trigonal planar **c) tetrahedral** d) trigonal bipyramidal e) octahedral

**7.** What is the **molecular geometry (shape)** about the central atom?

**a) tetrahedral** b) trigonal pyramid c) square planar d) trigonal bipyramidal e) bent

**8.** What is/are the **bond angle(s)** in the molecule?

**a) 109°** b) 180° c) 90°, 120° d) 90° e) 120°

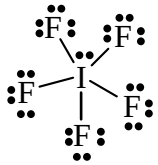
**9.** What is the **polarity** of the molecule?

**a) nonpolar** b) polar

**10.** What **hybrid orbitals** are used by the central atom in bonding?

a) *sp* b) $sp^2$ **c) $sp^3$** d) $sp^3d$ e) $sp^3d^2$

Given the correct Lewis structure below, answer the following questions. [5 pts]




**11.** What is the **electron pair arrangement** of the central atom?

a) linear b) trigonal planar c) tetrahedral d) trigonal bipyramidal **e) octahedral**

**12.** What is the **molecular geometry (shape)** about the central atom?

**a) square pyramidal** b) trigonal bipyramidal c) octahedral d) see-saw e) square planar

**13.** What is/are the **bond angle(s)** in the molecule?

**a) 90°, 180°** b) 120° c) 109° d) 90° e) 180°

**14.** What is the **polarity** of the molecule?

a) nonpolar **b) polar**

**15.** What **hybrid orbitals** are used by the central atom in bonding?

a) $sp$ b) $sp^2$ c) $sp^3$ d) $sp^3d$ **e) $sp^3d^2$**

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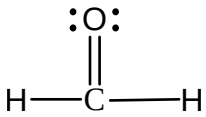
Given the correct Lewis structure below, answer the following questions. [5 pts]




**16.** What is the **electron pair arrangement** of the central atom?

a) linear **b) trigonal planar** c) tetrahedral d) trigonal bipyramidal e) octahedral

**17.** What is the **molecular geometry (shape)** about the central atom?

a) T-shaped b) tetrahedral c) bent d) trigonal pyramid **e) trigonal planar**

**18.** What is/are the **bond angle(s)** in the molecule?

a) 109° b) 180° c) 90°, 120° d) 90°, 180° **e) 120°**

**19.** What is the **polarity** of the molecule?

a) nonpolar **b) polar**

**20.** What **hybrid orbitals** are used by the central atom in bonding?

a) $sp$ **b) $sp^2$** c) $sp^3$ d) $sp^3d$ e) $sp^3d^2$