Chemistry 115 Name

Dr. Cary Willard

Quiz 6a (20 points) October 31, 2012

1. (3 points) How many valence electrons are there in an atom of carbon?

Draw the lewis electron dot structure for an atom of carbon.

1. (3 points) How does an ionic bond differ from a covalent bond?
2. (5 points) Draw a Lewis electron dot structure for the molecule below. Identify the bonding pairs and the lone pairs in NBr3.
3. (6 points) Determine the orbital and molecular geometries for each of the following molecules.

|  |  |  |
| --- | --- | --- |
| molecule | orbital geometry | molecular geometry |
|  |  |  |
|  |  |  |

1. (3 points) Explain what is meant by a polar bond? How can you predict whether or not a bond will be polar?

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Quiz 6b (20 points) October 31, 2012

1. (3 points) How many valence electrons are there in an atom of sulfur?

Draw the lewis electron dot structure for an atom of sulfur.

1. (3 points) How does an ionic bond differ from a covalent bond?
2. (5 points) Draw a Lewis electron dot structure for the molecule below. Identify the bonding pairs and the lone pairs in SF2.
3. (6 points) Determine the orbital and molecular geometries for each of the following molecules.

|  |  |  |
| --- | --- | --- |
| molecule | orbital geometry | molecular geometry |
|  |  |  |
|  |  |  |

1. (3 points) Explain what is meant by a polar bond? How can you predict whether or not a bond will be polar?

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Quiz 6c (20 points) October 31, 2012

1. (3 points) How many valence electrons are there in an atom of chlorine?

Draw the lewis electron dot structure for an atom of chlorine.

1. (3 points) How does an ionic bond differ from a covalent bond?
2. (5 points) Draw a Lewis electron dot structure for the molecule below. Identify the bonding pairs and the lone pairs in CH3OH. (Skeleton structure drawn.)



1. (6 points) Determine the orbital and molecular geometries for each of the following molecules.

|  |  |  |
| --- | --- | --- |
| molecule | orbital geometry | molecular geometry |
|  |  |  |
|  |  |  |

1. (3 points) Explain what is meant by a polar bond? How can you predict whether or not a bond will be polar?

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Quiz 6d (20 points) October 31, 2012

1. (3 points) How many valence electrons are there in an atom of boron?

Draw the lewis electron dot structure for an atom of boron.

1. (3 points) How does an ionic bond differ from a covalent bond?
2. (5 points) Draw a Lewis electron dot structure for the molecule below. Identify the bonding pairs and the lone pairs in N2H4. (Skeleton structure drawn.)



1. (6 points) Determine the orbital and molecular geometries for each of the following molecules.

|  |  |  |
| --- | --- | --- |
| molecule | orbital geometry | molecular geometry |
|  |  |  |
|  |  |  |

1. (3 points) Explain what is meant by a polar bond? How can you predict whether or not a bond will be polar?