Chemistry 141 Name

Dr. Cary Willard

Quiz 8 (20 points) November 4, 2013

All work must be shown to receive credit. Be sure to use the correct significant figures.

1. (4 points) Write a complete electron configuration for Titanium
2. (8 points) Write the shorthand electron configuration for an atom of Neodymium (atomic number 60) and show the orbital diagram for all electrons beyond Xe. (Remember those are the boxes with the arrows) Write possible quantum numbers for these electrons

shorthand configuration

orbital diagram (indicate type of sublevel under each box or set of boxes)

possible quantum numbers

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Orbital type | n | l | ml | ms |
|  |  |  |  |  |
|  |  |  |  |  |
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1. (8 points) Draw Lewis electron dot structures for SF4 and give the orbital and molecular geometry of the molecule and the hybridization of sulfur.

Orbital geometry\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Molecular geometry\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Hybridization\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_