Name:_____ Date:_____ Period:_____

ELECTRON CONFIGURATIONS, ATOMIC ORBITAL DIAGRAMS, QUANTUM NUMBERS
(Shells, subshells, orbitals, and electrons—oh my!)

1. In an atom of Pd (46 e-), how many electrons have a subshell quantum number l = 1?_____
2. In an atom of Fe (26 e-), how many valence electrons are there?_____
3. In an atom of Te (52 e-), how many electrons are in the 4th shell (n=4)?_____
4. In an atom of Po (84 e-), how many electrons have a subshell quantum number l=2?_____
5. In an atom of Rh (45 e-), how many electrons are UNPAIRED?_____
6. In an atom of Co (27 e-), how many filled orbitals are there?_____
7. In an atom of Tl (81 e-), how many electrons are UNPAIRED?_____
8. In an atom of Se (34 e-), how many filled orbitals are there?_____
9. In an atom of I (53 e-), how many filled subshells are there?_____
10. In an atom of Ti (22 e-), how many valence electrons are there?_____
11. In an atom of Ce (58 e-), how many electrons are in the 4th shell (n=4)?_____
12. In an atom of Xe (54 e-), how many different shells exist?
13. What is the maximum number of electrons that can fill….
    - the 1st shell?_____
    - the 2nd shell?_____
    - the 3rd shell?_____
    - the 4th shell?_____
    - the 5th shell?_____
    - the 6th shell?_____
    - the 7th shell?_____
14. What is the maximum number of electrons that can fit in one orbital?_____
15. What is the maximum number of subshell TYPES in…
    - the 1st shell?_____ what type is it?_____
    - the 2nd shell?_____ what type(s) are they?_____
    - the 3rd shell?_____ what type(s) are they?_____
    - the 6th shell?_____
    - the 7th shell?_____