Q2W1- Test 1 -Completing the model of the atom.

Matching

Match each statement with the correct item below.

a. s, p, d, or f within an energy level d. lanthanide or actinide

model

- b. can hold a maximum of two electrons
- c. 1s²2s²2p⁶3s²3p⁶

- e. discovery led to electron cloud
- _____1. Heisenberg uncertainty principle
- _____ 2. orbital
- ____ 3. inner transition element
- _____ 4. sublevel

Modified True/False

Indicate whether the statement is true or false.

- 5. The 1s orbital is <u>farther from</u> the nucleus than is the 2s sublevel.
- _____ 6. All s orbitals are <u>spherical</u>.
- _____7. The symbol [He] stands for the electron configuration <u>1s22s22p6</u>._____
- _____ 8. The maximum number of electrons in any *p* sublevel is <u>six</u>. ______
- 9. In general, the closer an orbital is to the nucleus, the more energy an electron possesses.
- _____ 10. The results of Rutherford's gold foil experiment suggested that most of an atom is solid.

Multiple Choice

Identify the choice that best completes the statement or answers the question.

	11.	What element ha	s the electron	configuration	of [Ne]3s ² 3p ¹ ?
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a. silicon c. boron

b. sodium d. aluminum

12. Transition elements have final electrons in the _____ sublevel.

- a. f c. p b. d d. s
- ____ 13. Compare the maximum number of electrons possible in sublevel 3*d* with the maximum number that could be in sublevel 4*d*.
 - a. There are more in 3d. c. 1
 - c. There are more in 4d.
 - b. They are the same. d. They are impossible to compare.

14. What are the valence electrons in the electron configuration of tin, [Kr]4d¹⁰5s²5p²?

 a. 5p²
 c. [Kr]

 b. 5s²5p²
 d. 4d¹⁰

 15.	What is the highest occupied sublevel a. 4p b. 3d	in the structure of an atom of arsenic? c. 3s d. 3p		
 16.	An atom is in Group 2, Period 3. How m a. 3 b. 12	nany electrons does the atom contain? c. 2 d. 6		
 17.	Electron 1 falls from energy level four to three to energy level two. Which electrona. 2b. Neither electron could emit red light.	o energy level two. Electron 2 falls from energy level tron is more likely to emit red light? c. Both electrons emit red light. d. 1		
 18.	Light is released when an electron move The resulting spectrum is a(n) spectrum is a spectrum	is released when an electron moves from higher energy levels to a lower energy level. resulting spectrum is a(n) spectrum. Ibsorption c. emission ower energy d. excitation		
 19.	Which is a possible last sublevel for an e a. 4s ² b. 3p ⁶	element found in Group 18? c. 4p ³ d. 4d ⁸		
 20.	If an atom contains six energy levels, he a. four	now many sublevels does it contain? c. six		

b. one d. two
