

Multiple-Choice: Place the CAPITAL letter of the best answer on the line.(17 pts)

1. \_\_\_\_\_ Which scientist proposed that atoms are infinitesimal round balls, unable to be seen by the naked eye?  
A. Democritus                      B. J. J. Thomson                      C. Ernest Rutherford                      D. Neils Bohr
2. \_\_\_\_\_ Who is the person credited with the formation of the plum pudding model?  
A. J. J. Thomson                      B. Ernest Rutherford                      C. Neils Bohr                      D. John Dalton
3. \_\_\_\_\_ Ernest Rutherford is credited with discovering which part of the atom?  
A. quarks                      B. electrons                      C. nucleus                      D. neutrons
4. \_\_\_\_\_ The three basic particles that make up an atom are:  
A. protons, neutrons, and ions                      B. protons, neutrons, and electrons  
C. protons, isotopes, and ions                      D. nuclei, electron cloud, and protons
5. \_\_\_\_\_ The nucleus of an atom consists of:  
A. protons and electrons                      B. neutrons only  
C. protons and neutrons                      D. protons, neutrons, and electrons
6. \_\_\_\_\_ Rutherford demonstrated that the atom  
A. is made of mostly empty space                      B. the nucleus has a positive charge  
C. electrons are outside the nucleus                      D. all of these
7. \_\_\_\_\_ A single proton has what electrical charge?  
A. no charge                      B. positive one charge  
C. negative one charge                      D. either a positive or negative one charge
8. \_\_\_\_\_ Which particles have approximately the same size and mass as each other?  
A. neutrons and electrons                      B. electrons and protons  
C. protons and neutrons                      D. none - they all differ in size and mass
9. \_\_\_\_\_ As you move from left to right across a period in the Periodic Table, metallic properties  
A. decrease                      B. remain the same  
C. increase                      D. increase then decrease
10. \_\_\_\_\_ Which of the following is a property of nonmetals?  
A. luster                      B. high melting point  
C. malleability                      D. brittleness
11. \_\_\_\_\_ Which of the following is a property of metals?  
A. dullness                      B. brittleness  
C. malleability                      D. poor conductivity
12. \_\_\_\_\_ Which two particles would be attracted to each other?  
A. electrons and neutrons                      B. electrons and protons  
C. protons and neutrons                      D. all particles are attracted to each other
13. \_\_\_\_\_ According to atomic theory, electrons are usually found:  
A. in the atomic nucleus                      B. outside the nucleus, but close to it