

Name: \_\_\_\_\_ Period: \_\_\_\_\_ Date: \_\_\_\_\_

## Chapter 11 Test 2016-2017

All questions are worth one point each

**Multiple Choice** - Identify the letter of the choice that best completes the statement or answers the question.

- \_\_\_\_\_ 1. The **atomic number** of an atom or ion refers to the number of  
A neutrons, protons, and electrons  
B neutrons.  
C protons.  
D electrons.
- \_\_\_\_\_ 2. The discovery of radioactivity by Henri Becquerel involved a \_\_\_\_\_  
A Geiger counter  
B Piece of film  
C Bubble chamber  
D Electroscope
- \_\_\_\_\_ 3. During nuclear \_\_\_\_\_, great amounts of energy are produced from very small amounts of mass.  
A fission  
B excitation  
C expansion  
D transfiguration
- \_\_\_\_\_ 4. Uranium-235, Uranium-238, and Uranium-239 are all different \_\_\_\_\_ of Uranium  
A isotopes.  
B ions.  
C elements.  
D none of the above
- \_\_\_\_\_ 5. Many people work near a source of nuclear radiation. To measure the amount of exposure they personally have to radiation **over a long time**, they most likely will use a  
A Flux Capacitor  
B radon kit.  
C lead shield.  
D dosimeter.
- \_\_\_\_\_ 6. When U-235 splits because of fission, it usually shoots out  
A no particles at all.  
B three neutrons.  
C many electrons.  
D many protons.  
E one neutron.
- \_\_\_\_\_ 7. Radioactivity is the process in which an unstable atomic nucleus emits \_\_\_\_\_ or energy  
A light  
B heat  
C charged particles  
D sound
- \_\_\_\_\_ 8. In general, the nucleus of a small atom is stable. In this kind of a small atom,  
A the strong nuclear force is **much weaker** than the electromagnetic force.  
B the strong nuclear force is **much greater** than the electromagnetic force.  
C the strong nuclear force **equals** the electromagnetic force.  
D the strong nuclear force and the electromagnetic force are **both attractive**.





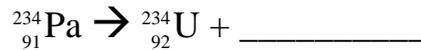
## Matching

- |   |                   |   |                |
|---|-------------------|---|----------------|
| A | cosmic rays       | F | Geiger counter |
| B | 5730 years        | G | Curie          |
| C | alpha             | H | gamma          |
| D | 4.5 Billion years | I | Cyclotron      |
| E | beta              |   |                |

- \_\_\_\_\_ 30. Source of background radiation  
\_\_\_\_\_ 31. Radiation that emits a high energy wave  
\_\_\_\_\_ 32. Radiation that emits an electron  
\_\_\_\_\_ 33. Device that measures radiation  
\_\_\_\_\_ 34. Radiation that emits a Helium particle

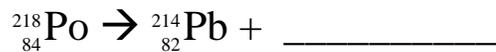
## Short Answer

35. Alpha-emitting substances, such as radon gas, can be a serious health hazard only if they are \_\_\_\_\_ or \_\_\_\_\_
36. In terms of **forces**, when does a nucleus become radioactive? (Your answer must include forces)
37. Balance the following nuclear equation



## Other

38. What type of nuclear radiation completes the following decay equation?



39. What type of nuclear radiation completes the following decay equation?

