**Honors Quiz Review Sheet: Early History of the Atom**

1) Define the following terms:

* Law of definite composition
* Law of conservation of mass
* Isotope

2) What are the five characteristics of the atom, as described by Dalton?

3) Fill in the blanks!

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Atomic Symbol** | **Protons** | **Neutrons** | **Electrons** | **Atomic mass** |
| Pb |  |  |  | 207 |
|  | 27 | 29 |  |  |
|  |  |  | 56 | 138 |
| Gd |  | 95 |  |  |

4) Element X has two isotopes: 345X (mass 345 amu, abundance 36%) and 349X (mass 349 amu, abundance 64%). Using this information, determine the average atomic mass of Element X.

5) Explain why isotopes exist at all.