Atom and Periodic Table Review Worksheet Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |
| --- | --- | --- |
| Name of Scientist | Experiment Done | Discovered |
| 1. Democritus | /////////////////////////////// |  |
| 1. Dalton | ////////////////////////////// |  |
| 1. Rutherford |  |  |
| 1. Mosely |  |  |
| 1. Chadwick |  |  |
| 1. Mendeleev | /////////////////////////////// |  |
| 1. Thomson |  |  |
| 1. Bohr |  |  |
| 1. Schrodinger | /////////////////////////////// |  |
| 1. Heinsenberg | ////////////////////////////// |  |
| 1. Millikan |  |  |

12. Fill in the table below

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Isotope | Atomic # | Mass # | Neutrons | Protons | Electrons |
| Tin |  |  |  |  |  |
| Tin-121 |  |  |  |  |  |
| Tin-116 |  |  |  |  |  |
| Strontium |  |  |  |  |  |
| Strontium-90 |  |  |  |  |  |
| Strontium-85 |  |  |  |  |  |

1. For the following elements state the charge of the ion and if it is an anion or a cation. (20 points)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Atom | Valence electrons | Charge of ion | Anion/Cation | Outer shell electrons |
| Bromine |  |  |  |  |
| Rubidium |  |  |  |  |

1. The following table is data from a sample of element X (10 points)

|  |  |  |
| --- | --- | --- |
| **Isotope** | **Number of atoms** | **Mass of sample** |
| x-1 | 3.349 x 1029 | 54.36 g |
| x-2 | 1.172 x 1030 | 42.34 g |
| x-3 | 1.6744 x 1029 | * 1. g |

1. Calculate the % of atoms for each isotope. (# of atoms/total # of atoms)
   * 1. X-1
     2. X-2
     3. X-3
2. Calculate the mass of a single atom of each isotope. (mass of sample/# of atoms)
3. X-1
4. X-2
5. X-3
6. Calculate the atomic mass of element X for this sample by using the % abundance equation.
7. Fill in the following table using your periodic table relating to ionization energy, electronegativity, atomic size, and ionic size. (20 points)

|  |  |  |  |
| --- | --- | --- | --- |
| Which atom has a larger atomic size? | Which atom has a larger ionic size? | Which atom has more Electronegativity? | Which atom has the highest ionization energy? |
| Fr or Al | Fr or Al | Fr or Al | Fr or Al |
| Zn or Al | Zn or Al | Zn or Al | Zn or Al |

16. Name the following:

1) The element in the 4th period and group 7

2) Name a metalloid in the 5th period

3) Name the element in the s-block and period 7 with 1 valence electron

4) Name three transition metals

5) Name an element that makes a -3 ion

6) Name the halogen in the 3rd period

7) Name a noble gas in the 6th period

8) Name 2 alkaline earth metals

9) Name the alkali metal in the 3rd period

10) Name 2 elements in the f-block