Atomic # and Isotopes Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What two things does the atomic number tell you about the atom? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Fill out the following table:

|  |  |  |  |
| --- | --- | --- | --- |
| Element | Atomic # | Protons | Electrons |
|  |  |  | 19 |
|  |  | 35 |  |
| Ne | 10 |  |  |
|  | 12 |  |  |
| Rn |  |  |  |

|  |  |
| --- | --- |
| 1. Do the atoms to the right have the same atomic #?

\_\_\_\_\_\_ Why or why not? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
|  |  |

1. Isotopes always have the same number of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ but the number of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ can change.
2. Label the parts of the Isotope symbol and name below:

  **Lithium - 6**

1. Mass Number = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. For each of the following isotopes, write the number of protons, neutrons, and electrons.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Chromium-58 | Chromium-63 |  |  | Carbon-12 | Carbon-16 |
| # of protons |  |  |  | # of protons |  |  |
| # of neutrons |  |  |  | # of neutrons |  |  |
| # of electrons |  |  |  | # of electrons |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Nitrogen-15 | Nitrogen-20 |  |  | Sulfur-23 | Sulfur-25 |
| # of protons |  |  |  | # of protons |  |  |
| # of neutrons |  |  |  | # of neutrons |  |  |
| # of electrons |  |  |  | # of electrons |  |  |

1. For each of the following isotopes, write the protons & electrons, neutrons, isotope name, and isotope symbol.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Element | Calcium |  | Element | Oxygen |
| Atomic Number | 20 |  | Atomic Number | 8 |
| Mass Number | 46 |  | Mass Number | 17 |
| Protons & Electrons |  |  | Protons & Electrons |  |
| Neutrons |  |  | Neutrons |  |
| Isotope Name |  |  | Isotope Name |  |
| Isotope Symbol |  |  | Isotope Symbol |  |

1. What is the nuclear symbol for the krypton isotope with 48 neutrons? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_