Atomic Structure:

Use the periodic table to complete the following using the most common isotope for each, assuming neutral atoms:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Element | Symbol | Atomic Number | Atomic Mass (rounded) | Protons | Neutrons | Electrons | Valence Electrons |
| Sodium | Na |  |  | 11 | 12 | 11 | 1 |
|  | Y |  |  | 39 |  | 39 |  |
|  |  | 30 | 65 |  |  |  |  |
|  |  | 17 |  |  |  |  |  |
|  | Co |  |  |  |  |  | 9 |
|  | Al |  |  |  |  |  |  |
| Iron |  |  |  |  | 30 |  |  |
| Nitrogen |  |  |  |  |  |  |  |
|  | H |  |  |  |  |  |  |
|  | Zn |  |  |  |  |  |  |
| Bromine |  |  | 80 |  |  |  |  |
| Oxygen |  |  |  |  | 8 |  |  |

For the following use the information given about the following isotopes and ions to complete the table.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Isotope | Isotope Symbol | Ion Symbol | Atomic Number | Atomic Mass (rounded) | Protons | Neutrons | Electrons | Valence Electrons | Ionic Charge | Cation or Anion |
| Sodium-22 | Na-22 | Na- |  |  | 11 | 11 | 12 | 2 | -1 | Anion |
| Hydrogen-2 |  | H+ | 1 |  |  |  |  |  | +1 |  |
|  |  |  | 9 | 20 |  |  | 10 |  |  |  |
|  |  |  |  |  | 5 | 6 | 2 |  |  |  |
|  | Ca-21 | Ca+2 |  |  |  |  | 18 |  | +2 | Cation |
|  |  | K |  |  |  | 20 |  | 1 | 0 |  |
| Helium-3 |  | He |  |  |  |  |  |  |  |  |
|  | S-32 | S-2 |  |  |  |  |  |  |  |  |
|  |  |  | 22 |  |  | 25 | 18 |  |  |  |
|  |  |  |  | 15 | 7 |  |  |  | -3 |  |
| Carbon-14 |  |  |  |  |  |  |  |  | +4 |  |
|  |  |  |  |  | 3 | 4 |  | 2 | +1 |  |