Calculating Protons, Neutrons and Electrons

**Instructions:** Using a periodic table, complete the following table.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ELEMENT | SYMBOL | ATOMIC # | MASS # | CHARGE (COMBINING CAPACITY) | # P+ | # E- | # N0 | METAL or NON-METAL |
| Gold |  |  |  |  |  |  |  |  |  |  |
| Nitrogen |  |  |  |  |  |  |  |  |
| Sodium |  |  |  |  |  |  |  |  |
|  | Al |  |  |  |  |  |  |  |
|  | Co |  |  |  |  |  |  |  |  |  |
|  | Cl |  |  |  |  |  |  |  |
|  |  |  |  |  |  | 24 |  |  |  |  |
|  |  |  |  |  | 1 |  |  |  |
|  |  |  |  |  | 12 |  |  |  |
|  |  |  |  |  | 19 | 18 |  |  |
|  |  | 76 |  |  |  |  |  |  |  |  |
|  |  |  |  |  | 35 | 36 |  |  |
| Oxygen |  |  |  |  |  |  |  |  |
| Helium |  |  |  |  |  |  |  |  |
| Silver |  |  |  |  |  |  |  |  |
| Boron |  |  |  |  |  |  |  |  |
|  | Ti |  |  |  |  |  |  |  |  |  |
|  | Pb |  |  |  |  |  |  |  |  |  |
|  | P |  |  |  |  |  |  |  |
|  |  |  |  |  | 20 |  |  |  |
|  |  | 44 |  |  |  |  |  |  |  |  |
|  |  |  |  |  | 16 |  |  |  |
| Zirconium |  |  |  |  |  |  | 51 |  |
| Selenium |  |  |  |  |  |  | 45 |  |

ANSWER KEY

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ELEMENT | SYMBOL | ATOMIC # | MASS # | CHARGE (COMBINING CAPACITY) | # P+ | # E- | # N0 | METAL or NON-METAL |
| Gold | Au | 79 | 197 | +3,  | +1 | 79 | 76 | 78 | 118 | Metal |
| Nitrogen | N | 7 | 14 | -3 | 7 | 10 | 7 | Non-metal |
| Sodium | Na | 11 | 23 | +1 | 11 | 10 | 12 | Metal |
| Aluminum | Al | 13 | 27 | +3 | 13 | 10 | 14 | Metal |
| Cobalt | Co | 27 | 59 | +2 | +3 | 27 | 25 | 24 | 32 | Metal |
| Chlorine | Cl | 17 | 35 | -1 | 19 | 18 | 18 | Non-metal |
| Chromium | Cr | 24 | 52 | +2 | +3 | 24 | 22 | 21 | 28 | Metal |
| Hydrogen | H | 1 | 1 | +1 | 1 | 0 | 0 | Non-metal |
| Magnesium | Mg | 12 | 24 | +2 | 12 | 10 | 12 | Metal |
| Potassium | K | 19 | 39 | +1 | 19 | 18 | 20 | Metal |
| Osmium | Os | 76 | 190 | +3 | +4 | 76 | 73 | 72 | 114 | Non-metal |
| Bromine | Br | 35 | 80 | -1 | 35 | 36 | 45 | Non-metal |
| Oxygen | O | 8 | 16 | -2 | 8 | 10 | 8 | Non-metal |
| Helium | He | 2 | 4 | 0 | 2 | 2 | 2 | Non-metal |
| Silver | Ag | 47 | 108 | +1 | 47 | 46 | 61 | Metal |
| Boron | B | 5 | 11 | 0 | 5 | 5 | 6 | Non-metal |
| Titanium | Ti | 22 | 48 | +3 | +4 | 22 | 19 | 18 | 26 | Metal |
| Lead | Pb | 82 | 207 | +2 | +4 | 82 | 80 | 78 | 125 | Metal |
| Phosphorus | P | 15 | 31 | -3 | 15 | 18 | 16 | Non-metal |
| Calcium | Ca | 20 | 40 | +2 | 20 | 18 | 20 | Metal |
| Rhuthenium | Ru | 44 | 101 | +3 | +4 | 44 | 41 | 40 | 57 | Metal |
| Sulfur | S | 16 | 32 | -2 | 16 | 18 | 16 | Non-metal |
| Zirconium | Zr | 40 | 91 | +4 | 40 | 36 | 51 | Metal |
| Selenium | Se | 34 | 79 | -2 | 34 | 36 | 45 | Non-metal |