Name: _____ Date: _____

**CHEMISTRY**
**Atomic Mass & Ions**

**Part 1: Determine the atomic mass** of the elements using the isotopes and abundances.

1. Change the abundances from % to the decimal.
2. Calculate the sum-product of the atomic mass (nuclide number) and decimal abundance.

1. Chlorine has two abundant isotopes.

**35-Cl = 76%**
**37-Cl = 24%**

( __ · __ ) + ( __ · __ ) = _____ + _____ = _____ g/mol

2. Sulfur has three abundant isotopes.

**32-S = 95%**
**33-S = 0.8%**
**34-S = 4.2%**

( __ · __ ) + ( __ · __ ) + ( __ · __ ) =

_____ + _____ + _____ = _____ g/mol

3. Iron has four abundant isotopes.

**54-Fe = 5.8%**
**56-Fe = 91.7%**
**57-Fe = 2.2%**
**58-Fe = 0.3%**

( __ · __ ) + ( __ · __ ) + ( __ · __ ) + ( __ · __ ) =

_____ + _____ + _____ + _____ = _____ g/mol

LIVEWORKSHEETS

4. Strontium has four abundant isotopes.

**84-Sr = 0.5%**
**86-Sr = 9.9%**
**87-Sr = 7.0%**
**88-Sr = 82.6%**

( __ · __ ) + ( __ · __ ) + ( __ · __ ) + ( __ · __ ) =

_____ + _____ + _____ + _____ = _____ g/mol

**Part 2: Ions.** Determine if the atom is a cation or anion. Type **C** for cation. Type **A** for anion. Determine the number of protons, neutrons, and electrons in the atom buy using the nuclide number and the charge. Protons have a +1 charge. Electrons have a -1 charge.

| | Cation Or Anion? | Z | #P | #N | #e- |
|---|---|---|---|---|---|
| $56\text{-}Fe^{2+}$ | | | | | |
| $21\text{-}Na^{+}$ | | | | | |
| $32\text{-}S^{2-}$ | | | | | |
| $27\text{-}Al^{3+}$ | | | | | |
| $35\text{-}Cl^{-}$ | | | | | |
| $52\text{-}Mn^{4+}$ | | | | | |
| $19\text{-}Fl^{-}$ | | | | | |
| $230\text{-}Th^{4+}$ | | | | | |
| $138\text{-}Ba^{2+}$ | | | | | |
| $14\text{-}N^{3-}$ | | | | | |

LIVEWORKSHEETS