

Electron Configurations

{ Shorthand methods & Valence e-

Methods for Determining Electron Configurations

- ↳ Memorize the order
 - ↻ Low → high energy
- ↳ Diagonal Rule
- ↳ Use the Periodic Table
 - ↻ ****THIS IS LIKELY YOUR BEST OPTION****

Abbreviated e- configurations

- ↳ AKA Inner Core Configurations
- ↳ AKA Noble Gas Configuration

- ↳ Go back to the last noble gas and then proceed from there

- ↳ Example:

↻ Ru

↳ Means "electron configuration for Kr"
 $[Kr] 5s^2 4d^6$

↻ Sr

↻ As

Valence Electrons

- ↳ e- in the outermost energy level (physically)
- ↳ the most important to bonding
- ↳ maximum # of valence e- is 8e-
- ↳ But can't energy levels higher than 2 have more valence e-?
 - ↻ #e- in an energy level is equal $2n^2$

But...

$1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10} 4p^6 5s^2 4d^{10} \dots$

- ↳ Before a level gets any more than 8 e-, a couple of e- are placed in a farther out energy level, making that new energy level the valence level