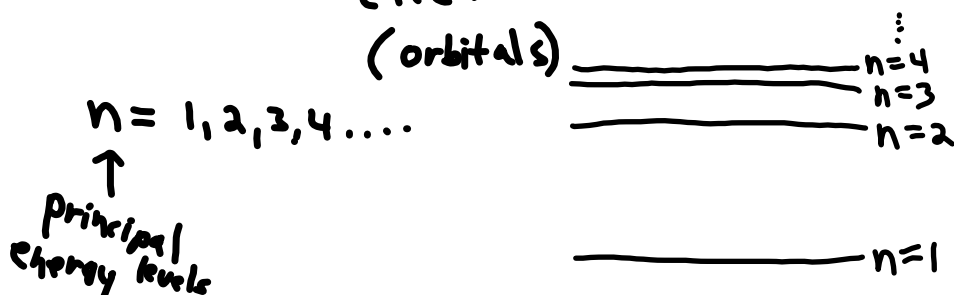


Electron Configuration

- Symbols used to show location of e^- 's.
- Aufbau - building up
 - electrons fill lower E levels first.



$$\#e^- = 2n^2$$

$$\#e^- = 2 \cdot 1^2 = 2$$

n	$\#e^-$
1	2
2	8
3	18
4	32
\vdots	

Electron energy sub-levels (orbitals)

$E \longrightarrow$

	s	p	d	f
$\#$ orbitals	1	3	5	7 (e ⁻)
$2e^-$ max	2	6	10	14

Writing Electron Configuration

Bohr- ,H atom - $1s^1$ ← #e⁻s } ground level
 principal E level sub-level

${}^2\text{He} - 1s^2$ ${}^3\text{Li} - 1s^2 2s^1$ ${}^4\text{Be} - 1s^2 2s^2$

${}^5\text{B} - 1s^2 2s^2 2p^1$ ${}^6\text{C} - 1s^2 2s^2 2p^2$ ${}^7\text{N} - 1s^2 2s^2 2p^3$

${}^{10}\text{Ne} - 1s^2 2s^2 2p^6$ ${}^{11}\text{Na} - 1s^2 2s^2 2p^6 3s^1$

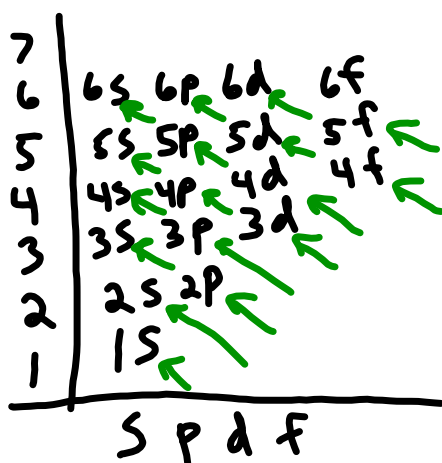
p.139 - Table 5-4 Complete e⁻ config.

Read- 127-129, 135, 136

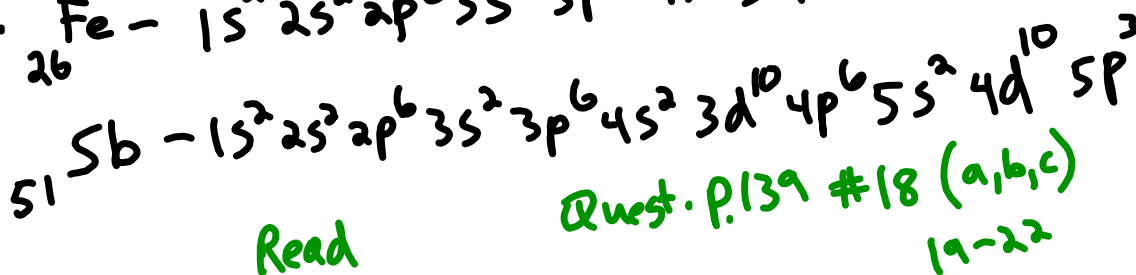
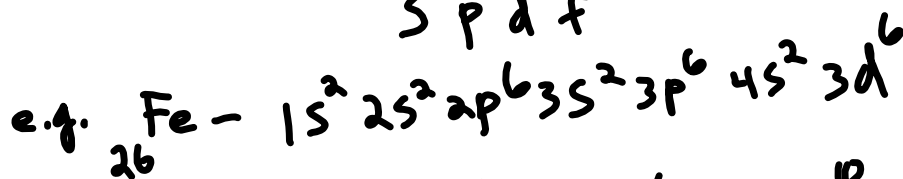
~~orbital box~~

Diagonal Rule

- * Used to write e⁻ configuration for multi-electron atoms.
- * Electrons in the atom interact (repel)
- * Slightly different order to filling orbitals.



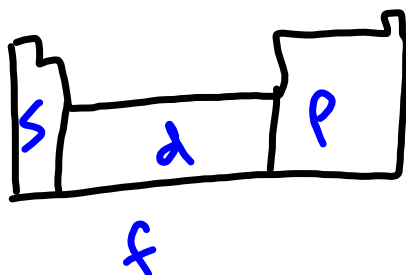
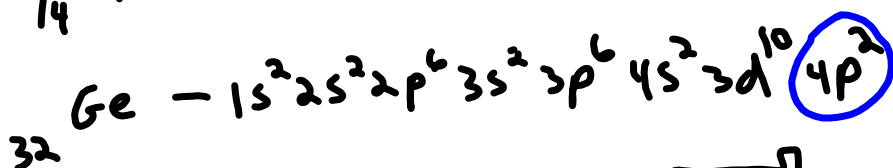
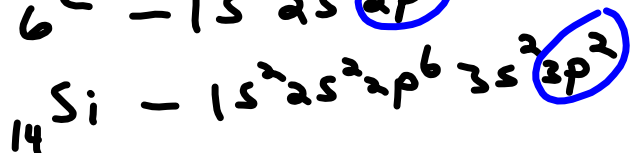
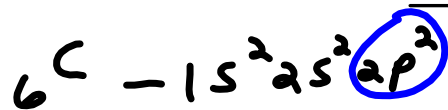
Read on diagonal -



Read

Quest. p.139 #18 (a,b,c)
19-22

Electron Configuration and the Periodic Table



Remember -
 "d" overlaps by ①
 "f" overlaps by ②

Valence Electrons

Valence e^- outermost "principal" E level

e.g. ${}_{12}\text{Mg} - 1s^2 2s^2 2p^6 \underline{3s^2}$ - Mg tends to lose $2e^-$
for a $+2$ charge

Electron Dot Diagrams



Questions -
See answer sheet