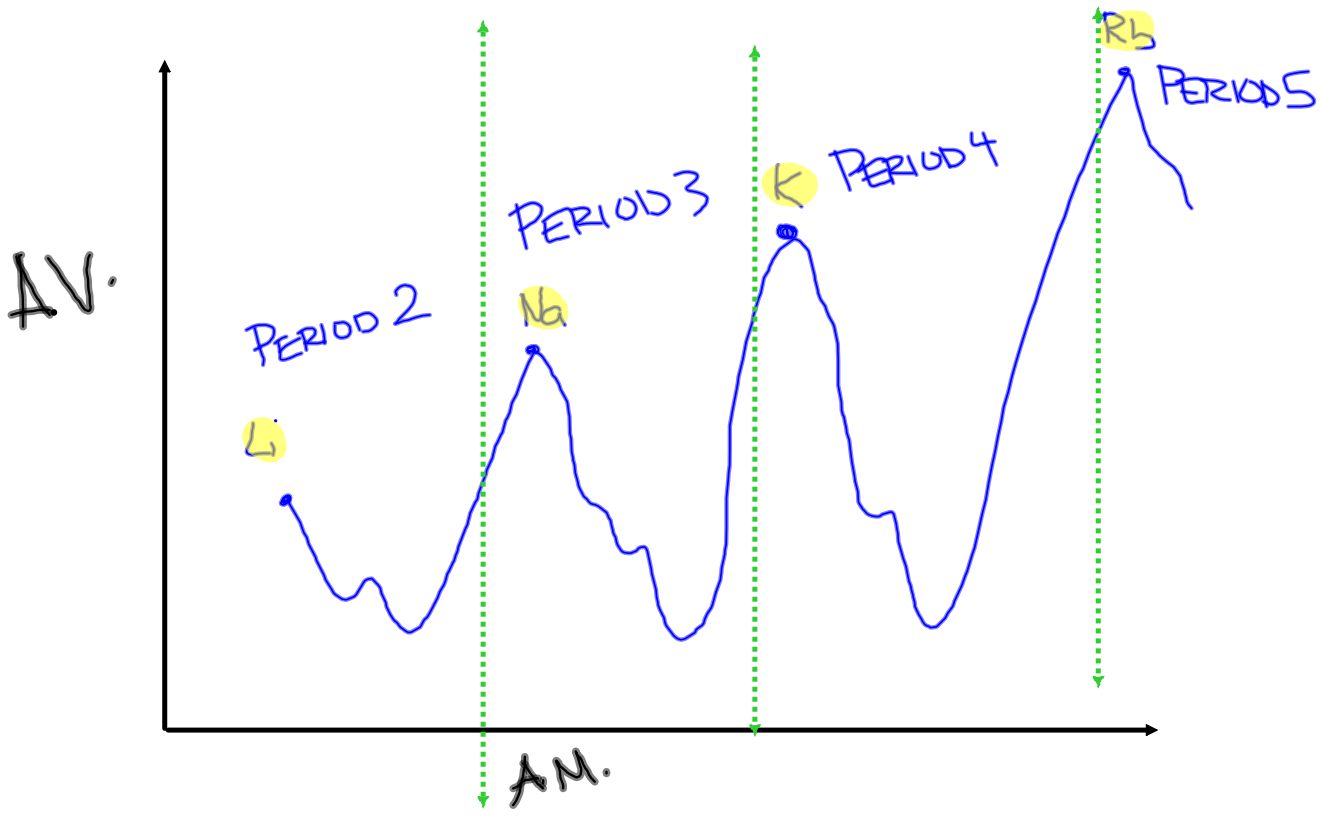

AV.
PERIOD 2
PERIOD 3
PERIOD 4
PERIOD 5
L
Na
K
R5
AM.

Parts of an Atom

Atom - is electrically neutral.
- is composed of a nucleus containing protons and neutrons, and electrons that surround the nucleus.

Fe → 26p+, 26e-

Atomic Number - is the number of protons found in the nucleus of an atom.

Protons - are subatomic particles possessing a positive charge.

Neutrons - are subatomic particles possessing a neutral charge.

Electrons - are subatomic particles possessing a negative charge.
For an atom, the electrons are equal to the atomic number.

Isotope - is a form of an element in which the atoms have the same number of protons as all other forms of that element, but it has a **different number of neutrons and therefore a different atomic mass**.

Mass Number - is the sum of the protons + neutrons number of protons and neutrons.

Carbon - 6 protons and 6 neutrons has a mass number of 12.

Another isotope of ^{12}C is ^{13}C, which has 6 protons and 7 neutrons.

Isotope Notation:

mass # → 12, p+n
atomic # → 6
C

6p+, 6e-, 6n

$^{13}_{6}C$

6p+, 6e-, 7n

MAIN SUBATOMIC PARTICLES

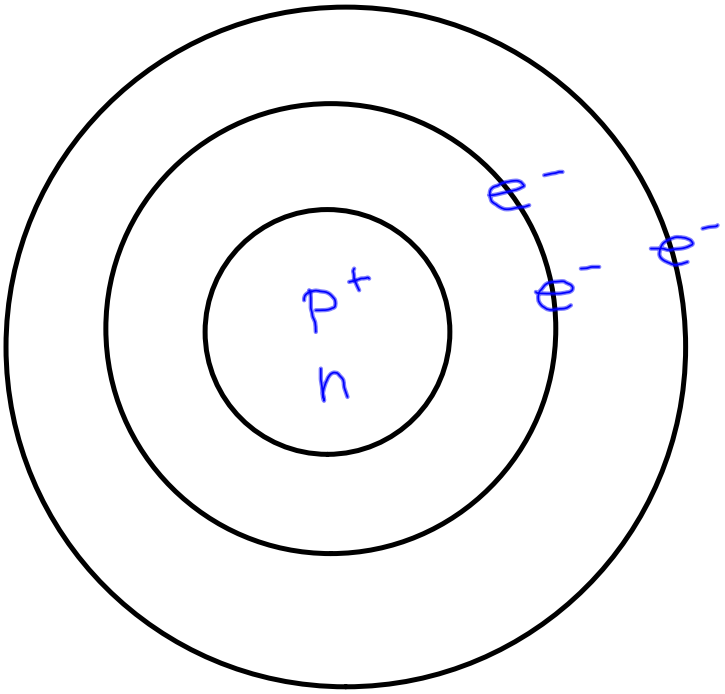
Particle	Location	Relative Mass	Charge
proton	nucleus	1 a.m.u.	+
neutron	nucleus	1 a.m.u.	none
electron	outside nucleus	small	-

Subatomic Particle	Electric Charge	Location	Relative Size
Protons	+	nucleus	"BIG" 1 a.m.u.
Neutrons	neutral	nucleus	"BIG" 1 a.m.u.
Electrons	−	outside nucleus	"massless" 0 a.m.u.

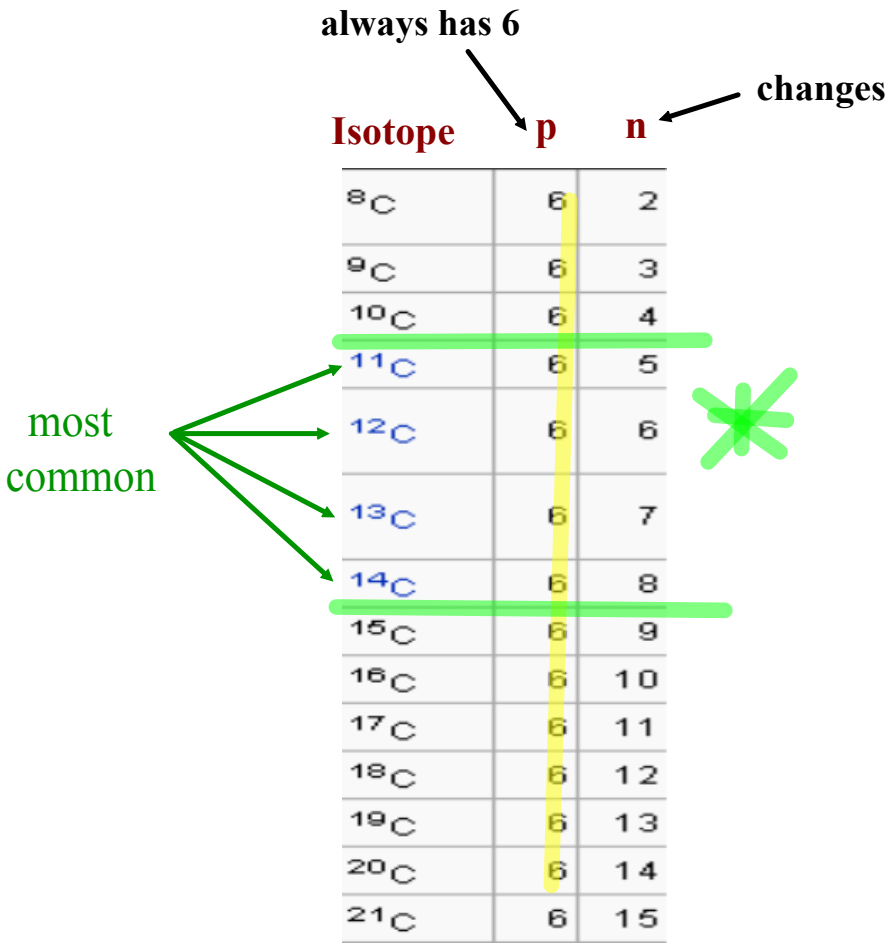
$10p^+$
$9e^-$
$1+$

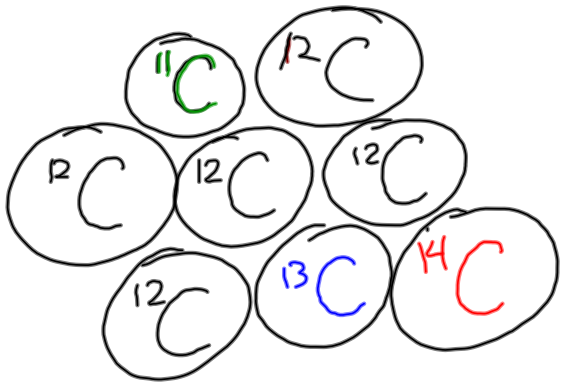
$10p^+$
$10e^-$
0

protons = # electrons


e^-
e^-
e^-
p^+
n

Isotopes of Carbon




11C
12C
12C
12C
12C
12C
13C
14C

Homework

Section 4.3 p. 110-118

Practice Problems #17-20