Chemist: Key

Counting Atoms Worksheet # 1

1. Determine the subatomic particles in each of the following::

	p^+	e^-	n^0	Atomic #	Mass #
^{27}Al	13	13	14	13	27
Br	35	35	45	35	80
Fe	26	26	30	26	56
Ca^{+2}	20	18	20	20	40
O^{-2}	8	10	8	8	16

2. Complete the following table:

	p^+	e^-	n^0	Atomic #	Mass #
K^{+1}	19	18	21	19	40
Mg	12	12	12	12	24
Sr^{+2}	38	36	53	38	91
~~[illegible]~~					
F^{-1}	9	10	10	9	19

3. Carbon consists of 98.89% ^{12}C (12.00000), and 1.110% ^{13}C (13.00335). Calculate the atomic weight of carbon to four significant figures.

$(.9890)(12.00000) + (.0110)(13.00335)$

$11.869 + .144337185 = 12.01$

4. Gallium consists of two natural isotopes, ^{69}Ga (68.9257) makes up 60.40% of the total. Calculate the % abundance and the mass of the other isotope.

$(.6040)(68.9257) + (.3960)(x) = 69.723$

$41.6311228 + .3960x = 69.723$

$x = 70.93908384 = 70.94$