

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~

Fluor					
¹⁹ F ⁻¹	9	10	10	9	19

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

$$\begin{aligned}
 & (.9889)(12.00000) + (.01110)(13.00335) \\
 & 11.869 + .144337185 = 12.01
 \end{aligned}$$

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

$$\begin{aligned}
 & (.6040)(68.9257) + (.3960)(x) = 69.723 \\
 & 41.6311228 + .3960x = 69.723
 \end{aligned}$$

$$x = 70.93908384 = 70.94$$