

Answer 3.3c

c) How do you calculate the *relative atomic mass* (atomic weight) from isotopic masses and abundance values?

Using the equation (Eq. 3.2)

$$M_r = \frac{\sum_{i=1}^i A_i \times m_i}{\sum_{i=1}^i A_i}$$

we obtain for the element chlorine, for example:

$$M_r = \frac{100 \times 34.9688 \text{ u} + 31.96 \times 36.9659 \text{ u}}{100 + 31.96} = 34.4528 \text{ u}$$