

Name : _____

Average Atomic Mass Worksheet

Answers

1. Find the average atomic mass for Li if the relative abundance of ${}^6\text{Li}$ is 7.5% and that of ${}^7\text{Li}$ is 92.5%.

Average atomic mass of lithium

$$= (6 \times 0.075) + (7 \times 0.925)$$

$$= 0.45 + 6.475$$

$$= 6.925 \text{ amu}$$

2. Find the average atomic mass for B if the relative abundance of ${}^{10}\text{B}$ is 19.9% and that of ${}^{11}\text{B}$ is 80.1%.

Average atomic mass of boron

$$= (10 \times 0.199) + (11 \times 0.801)$$

$$= 1.99 + 8.811$$

$$= 10.801 \text{ amu}$$

3. Find the average atomic mass for Cl if the relative abundance of ${}^{35}\text{Cl}$ is 75.78% and that of ${}^{37}\text{Cl}$ is 24.22%.

Average atomic mass of chlorine

$$= (35 \times 0.7578) + (37 \times 0.2422)$$

$$= 26.523 + 8.9614$$

$$= 35.4844 \text{ amu}$$

4. Find the average atomic mass for Mg if the relative abundance of ${}^{24}\text{Mg}$ is 78.99%, that of ${}^{25}\text{Mg}$ is 10%, and that of ${}^{26}\text{Mg}$ is 11.01%.

Average atomic mass of magnesium

$$= (24 \times 0.7899) + (25 \times 0.1) + (26 \times 0.1101)$$

$$= 18.9576 + 2.5 + 2.8626$$

$$= 24.3202 \text{ amu}$$