

- 8 (a)** The results of the α -particle scattering experiment gave evidence for the structure of the atom.

State two results and the associated conclusions.

result 1:

.....

conclusion 1:

.....

result 2:

.....

conclusion 2:

.....

[4]

- (b)** In a model of a copper atom of the isotope $^{63}_{29}\text{Cu}$, the atom and its nucleus are assumed to be spherical.

The diameter of the nucleus is $2.8 \times 10^{-14}\text{m}$. The diameter of the atom is $2.3 \times 10^{-10}\text{m}$.

Calculate the ratio

$$\frac{\text{density of the nucleus}}{\text{density of the atom}}$$

ratio = [3]

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