

20 Gold has a density of 19.3 g cm^{-3} .

The volume occupied by a single atom of gold may be considered to be a cube with sides of length $2.6 \times 10^{-8}\text{ cm}$.

What is the mass of a gold atom?

A $3.4 \times 10^{-25}\text{ g}$

B $3.4 \times 10^{-22}\text{ g}$

C $1.3 \times 10^{-17}\text{ g}$

D $1.3 \times 10^{-14}\text{ g}$

Space for working