H·W

(1) An element forms bcc structure with $a = 360pm$, $d = 8.96\ gm^{-3}$. Calculate the no: of unit cells & the no: of atoms present in 107 g of the element
A: 6.074×10^{23}

(2) An element crystallises in fcc lattice & has a cell edge of 3.608×10^{-8} cm
$d = 8.92\ gm^{-3}$. Calculate atomic mass of the element
A: 63.074.

(3) Ag metal crystalises with a fcc lattice. The length of the unit cell is 4.097×10^{-8} cm. Calculate the atomic radius & density of Ag. at mass = 108u, $N_A = 6.02 \times 10^{23}\ mol^{-1}$.
A: radius = 1.941×10^{-8} cm $d = 10.58\ gm^{-3}$.

(4) Ag has atomic mass = 108amu & $d = 10.5\ gm^{-3}$. If 'a' = 409pm, identify the type of unit cell. Also, calculate the radius of an atom of Ag.