Within the FCC unit cell there are 4 equivalent atoms, and thus, the value of n in Equation 3.5 is 4; hence, this expression may be written in terms of the concentration of Cu in weight percent as follows:

$$V_C = 5.932 \text{ x } 10^{-23} \text{ cm}^3$$

$$= \frac{nA_{ave}}{\rho_{ave} N_A}$$

$$= \frac{(4 \text{ atoms/unit cell}) \left[\dfrac{100}{\dfrac{C_{Cu}}{63.55 \text{ g/mol}} + \dfrac{(100 - C_{Cu})}{195.08 \text{ g/mol}}} \right]}{\left[\dfrac{100}{\dfrac{C_{Cu}}{8.94 \text{ g/cm}^3} + \dfrac{(100 - C_{Cu})}{21.45 \text{ g/cm}^3}} \right] (6.023 \times 10^{23} \text{ atoms/mol})}$$

And solving this expression for C_{Cu} leads to $C_{Cu} = 2.825$ wt%.