16.6. Solve: The volume of the copper cube is 8.0×10^{-6} m^3 and its mass is

$$M = \rho V = (8920 \text{ kg/m}^3)(8.0 \times 10^{-6} \text{ m}^3) = 0.07136 \text{ kg} = 71.36 \text{ g}$$

Because the atomic mass number of Cu is 64, one mole of Cu has a mass of 64 g. The number of moles in the cube is

$$n = \left(\frac{1 \text{ mol}}{64 \text{ g}}\right)(71.36 \text{ g}) = 1.12 \text{ mol}$$