Use the 5-step method and be sure to include units where appropriate. Round your answers to the correct number of significant digits. Adjust the density formula and solve the problems below:

How many cm3 would a 515.932 g sample of copper occupy if it has a density of 18.92 g/cm3?

Solution:

The density formula is

$$\rho \left(\frac{g}{cm^3} \right) = \frac{m(g)}{V(cm^3)}$$

According to this formula the volume of the metal is

$$V(cm^3) = \frac{m(g)}{\rho(g/cm^3)}$$

V (cm³) = 515.932/18.92 = 27.27 cm³

Answer: V = 27.27 cm³