Answer on Question #70045 - Chemistry - General Chemistry

Question: The density of a solid is 19.32 g/ml. If a side of a cube of gold has a length of 5.30 cm, what is the mass of the gold cube? Give answer in kg.

Solution

1) Find the volume of the cube of gold (the length of a side of a cube will be marked as *a*):

$$V(cube) = a^3 = 5.30^3 = 148.877\ cm^3.$$

2) Find the mass of the cube of gold (the density will be marked as *ρ*):

$$m(cube) = \rho * V = 19.32 * 148.877 \approx 2876.3\ g = 2.8763\ kg.$$

Answer: the mass of the gold cube is 2.8763 kg.