Answer on Question #63675, Physics / Mechanics | Relativity

Question:

What will be the volume of 1kg water?

Solution:

We may use this definition of density:

$\rho = \frac{m}{V}$, where ρ is the density, m is the mass, and V is the volume.

Then the volume $= \frac{m}{\rho}$.

$m = 1\ kg$

The density of water at 20 °C is 998.23 kg/m^3, and its volume is

$$V = \frac{1\ kg}{998.23\ kg/m^3} = 0.0010018\ m^3 = 1001.8\ cm^3$$

Answer:

$1001.8\ cm^3$