find and fix the error.

A golf ball has a diameter of 43 mm and a mass of 45 grams. What is the average density of the golf ball, in kg/m^3?

$\rho = \frac{m}{V}$ $\quad m = 45\ g = 0.045\ kg$

$V = \frac{4}{3}\pi r^3$ $\quad r = \cancel{43\ mm}$ ← Diameter!

$r = 21.5\ mm$ ← radius

$V = 4.16 \times 10^{4}\ mm^3$

$\rho = \frac{0.045\ kg}{4.16 \times 10^{4}\ mm^3} = 1.08 \times 10^{-6}\ kg/mm^3$

oops. we need kg/m^3

So change $V \rightarrow m^3$

$1\ m = 1000\ mm$

$V = 4.16 \times 10^{4}\ mm^3 \cdot \frac{1\ m^3}{1000\ mm^3}$

$= 41.6\ m^3$

$\rho = \frac{0.045\ kg}{41.6\ m^3} = \boxed{1.08 \times 10^{-3}\ kg/m^3}$