

ρ is the Greek letter "rho"
often used for density.

$$\text{Density} = \frac{\text{Mass}}{\text{Volume}} \quad \text{or} \quad \rho = \frac{M}{V}$$

Homework Problem.

The table below shows masses (**m**) and dimensions (radius **R**, thickness **d**) of various US coins.

- a) Derive a general formula for density ρ of the material from which a coin is made of. It should look like $\rho =$ "some mathematical expression of m , R , and d ".
- b) Based on your formula, fill the missing densities in the table (in g/cm^3). Pay attention to units! Based on your results, could a penny be made of Copper? Nickel or Nickel?

Coin	penny	nickel	dime	quarter
R (cm)	0.95	1.06	0.90	1.53
d (mm)	1.55	1.95	1.35	1.75
m (g)	2.5	5.0	2.27	5.67
ρ (g/cm^3)				