

PART 2 - MEASUREMENT

I. Units of Measurement

Number vs. Quantity

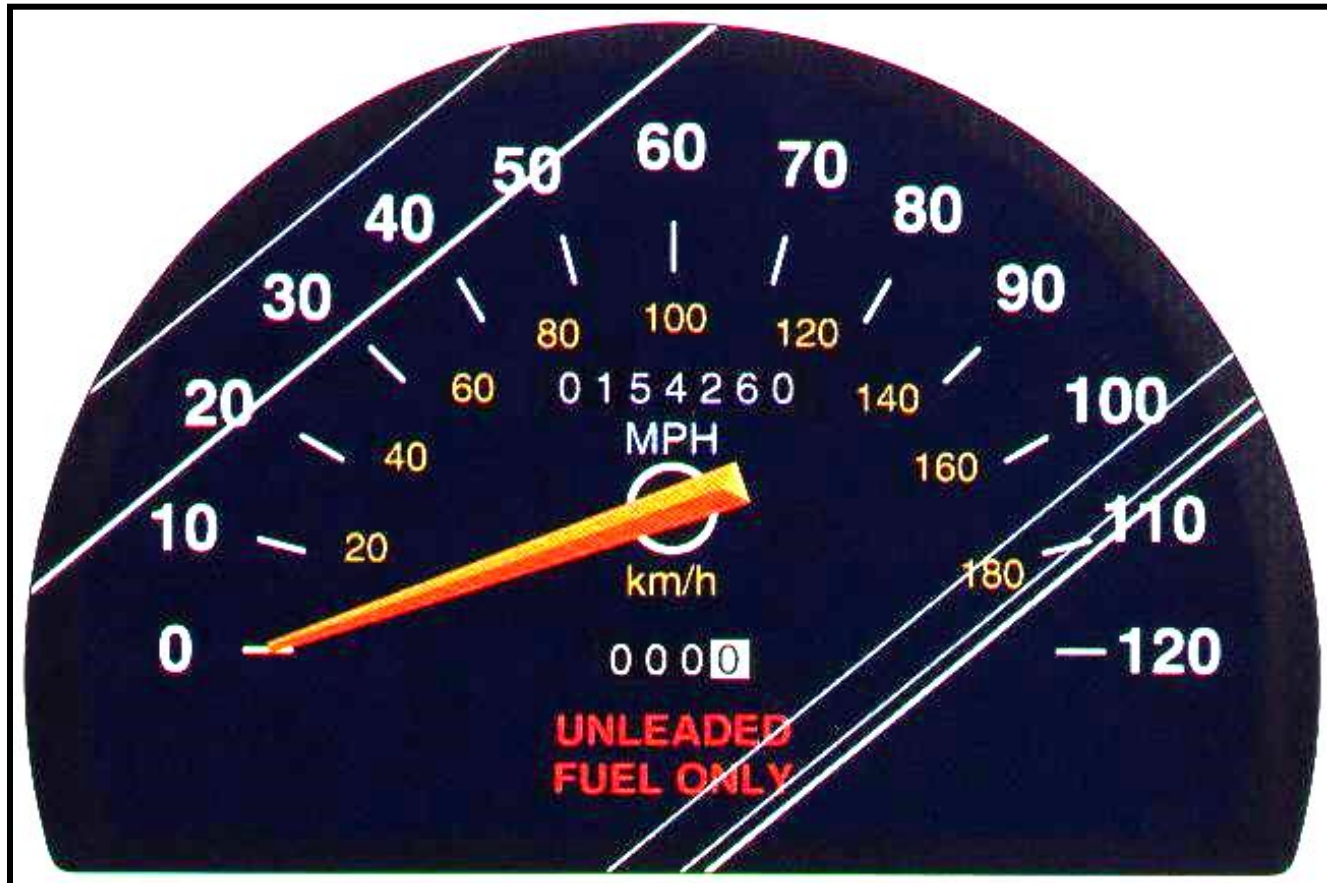
SI Base Units & Prefixes

Derived Units

Density Calculations

A. Number vs. Quantity

- Quantity - number + unit



UNITS MATTER!!

B. SI Units

Quantity	Base Unit	Symbol
Length	meter	m
Mass	kilogram	kg
Time	second	s
Temp	kelvin	k
Current	amps	A

B. SI Units

Prefix	Symbol	Factor
mega-	M	10^6
kilo-	k	10^3
deci-	d	10^{-1}
centi-	c	10^{-2}
milli-	m	10^{-3}
micro-	μ	10^{-6}
nano-	n	10^{-9}
pico-	p	10^{-12}

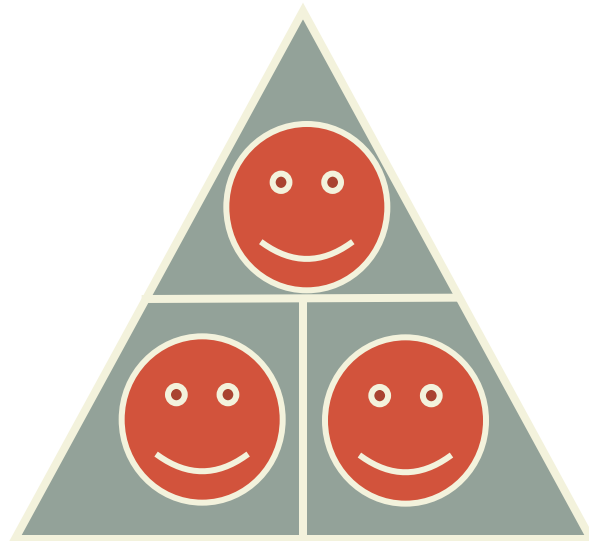
C. Derived Units

- Combination of base units.
- Volume - length \times length \times length

$$1 \text{ cm}^3 = 1 \text{ mL} \quad 1 \text{ dm}^3 = 1 \text{ L}$$

- Density - mass per unit volume (g/cm^3)

$$D = \frac{M}{V}$$



D. Density

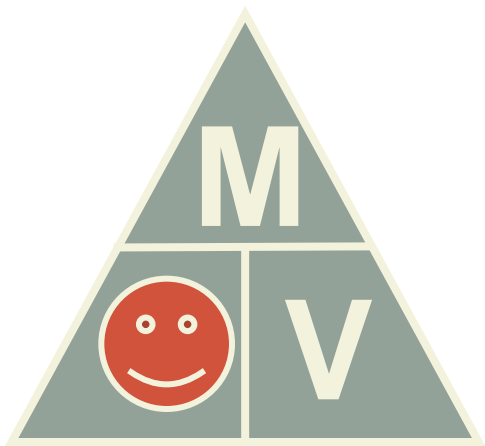
2) You have a sample with a mass of 620 g & a volume of 753 cm³. Find density.

GIVEN:

M =

V =

D = ?



WORK:

$$D = \frac{M}{V}$$