Chpt 2 rev 3
Physics

Perform the following conversions:

a) 0.0045 m = _____μm = _____mm = _____km

b) 123.5 cg = _____Mg = _____mg = _____g

c) 2.35×10^{-4} m = _____km = _____mm = _____μm

List the number of significant figures in each measurement:

d) 0.00100 m

e) 100.0 m

f) 100 m

g) 2 g

h) 0.002 g

i) 200.000 g

j) 0.00045 ml

k) 45.0045 ml

l) 45 ml

Perform the following operations to the appropriate number of sig. Figs.:

m) 65.023 g + 3.46 g + 5.1 g =

n) 65.3 g / 4.5 cm^3 =

o) 0.0020 m/s x 1.10 s =

p) 456.23 cg – 217 cg =

q) 0.001 m^3 / 270.0 m^3 =

r) 345 m + 2.498 m =

s) 4.56×10^4 m/s x 3.2×10^7 s =

t) 4.56×10^{-6} m – 2.3×10^{-7} =

List the uncertainty of each measurement, its % of uncertainty and its absolute and relative error:

u) You measure the width of a wire to be 5.56×10^{-2} mm. The accepted value of the wire is 5.50×10^{-2} mm.

v) You measure the distance to a satellite to be 3.45×10^5 m away. The accepted value of the distance is 3.50×10^5 m.

Perform the following operations:

w) What is the volume of a basketball if its radius is 12.50 cm? ($V = 4/3\ \pi r^3$)

x) What is the surface area of a plate if its radius is 6.5 cm? ($A = \pi r^2$)

y) What is the volume of a box if it is 2.3 cm by 5.6 cm by 3.8 cm?

z) The volume of a soda can that has a radius of 3.4 cm and a height of 12.4 cm? ($V = \pi r^2 h$)

What is the absolute and relative error of the following set of measurements:

A = 0.23 s
t_1= 0.22 s
t_2 = 0.27 s
t_3 = 0.19 s