

6. Calculate the answer, use the correct number of significant figures.

a) $(0.32)(14.50)(120) =$ _____

b) $172 - 40.435 =$ _____

c) $(24.1)/(0.005) =$ _____

d) $(3.9)(6.05)(420) =$ _____

e) $(14.1)/5 =$ _____

f) $15.1 + 61.26 + 171 =$ _____

(Express answers below in scientific notation with correct sig fig.)

_____ 7. What is the ratio of Milky Way radius to our solar system radius given that, the distance from Pluto to sun is 5.9×10^{12} meters and the Milky Way disk radius is 3.91×10^{20} meters.

_____ 8. The speed of light is 2.9979×10^8 m/s. If the sun is 1.5×10^{11} meters from earth, how many seconds does it take light to reach the Earth?

_____ 9. A scientist measures the change in speed of a car to be 54.2 m/s and the time it took to be 7.5 s. Determine the *acceleration* of the sample.

XC. Using the following data:

the volume of a sphere = $4/3\pi R^3$

Radius of the earth = 6.38×10^6 m.

Mass of earth = 5.9742×10^{24} kilograms

Find the *density* of the earth in kg/m^3 (Note: this method will only yield an approximate value for the density of the earth).