

Physics Measurement Worksheet

1) A lab student measured the length, width and height of a rectangular block to be 3.45 cm, 2.13 cm and .35 cm respectively. Calculate to the correct precision

- a. The Perimeter of the rectangle formed by the length and the width
- b. The Area of the rectangle formed by the width and the height
- c. The volume of the block

2) A cylinder is measured to have a radius of 40.3 mm and a height of 3.040 cm. If the volume of a cylinder is given by the formula $V = \pi r^2 h$, find the volume of the cylinder to the correct precision in cm^3

3) What is the approximate length of a pencil?

- a) 10^{-2} m b) 10^{-1} m c) 10^0 m d) 10^1 m

4) What is the approximate mass of a car?

- a) 10^0 kg b) 10^1 kg c) 10^3 kg d) 10^6 kg

5) What is approximate diameter of a quarter?

- a) 10^{-3} m b) 10^{-2} m c) 10^{-1} m d) 10^0 m

6) Express 345 cm in terms of meters

7) Express 123 g in terms of kg

8) Express 3.6 hrs in terms of seconds

9) The mass of an electron is 9.11×10^{-31} kg. The mass of a proton is 1.67×10^{-27} kg.

- a. What is the order of magnitude for the mass of a proton
- b. What is the order of magnitude for the mass of an electron
- c. Using the comparison of the orders of magnitude, determine how many times more massive a proton is compared to an electron.

10) Given the formula $F = a^2b^3/c^4$

Calculate the value of F if a is 4.65×10^5 , b is 3.11×10^{-8} and c is 1.78×10^3

(Express the calculation in standard scientific notation and with the correct precision (sig figs))