Exercise

Physics & Measurements

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1.2 Dimensional Analysis

The Planck length formula is built up of 3 basic constant. The constant involve is the Planck's constant, $h = 6.63 \times 10^{-34}$ kg.m^2/s, speed of light $c = 3 \times 10^8$ m/s and the Newton's constant, $G = 6.67 \times 10^{-11}$ m^3/kg.s^2. The formula is given by

$$\lambda_p = \sqrt{\frac{Gh}{c^3}}$$

Prove the dimension of λ

By using dimensional analysis, determine the standard unit of
(a) Force
(b) Pressure

Ans. (a) kg.m/s^2 (b) kg/m.s^2

Ahmad drive to Kuantan at 15 m/s in a 35 mi/h speeding area. Determine whether he is over the speed limits?

1.3 Conversion of unit

A chocolate gift box has 234.5 mm length and 158.4 mm width. Determine the area in square meters.

0.037 m^2

Communitising Technology