

**Answer on question #60777, Physics**

**Question** Give one example of each of the following type of physical quantity:

- (i) Dimensionless constant
- (ii) Dimensional constant
- (iii) Dimensionless variable
- (iv) Dimensional variable

**Solution** (i) Fine structure constant  $\alpha = \frac{e^2}{\hbar c 4\pi\epsilon_0} \approx \frac{1}{137.03599908}$   
(ii) Gravitational constant  $G = 6.674 \cdot 10^{-11} \text{ N} \cdot \text{m}^2/\text{kg}^2$   
(iii) fractional extension or strain  $\varepsilon = \frac{\Delta L}{L}$   
(iv) Speed  $v = \frac{s}{t}$ , in m/s.