

### Answer on Question #68215- Physics / Other

The displacement of a particle  $S$  in a time,  $t$  is given by  $S = A + Bt + Ct^2$ , deduce the units of the constants  $A, B$  and  $C$  appearing in the equation.

**Solution:**

The unit of the displacement is meter [m] and unit of the time is second [s], so

$$[m] = [A] + [B][s] + [C][s^2].$$

Finally, the units of the constants  $A, B$  and  $C$

$$[A] = [m], \quad [B] = \left[ \frac{m}{s} \right], \quad [C] = \left[ \frac{m}{s^2} \right].$$

**Answer:**  $[A] = [m], [B] = \left[ \frac{m}{s} \right], [C] = \left[ \frac{m}{s^2} \right]$

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