

Questions are taken from the course book '*Physics with modern physics*', Richard Wolfson & J. M. Pasachoff,

**Question**

*The velocity of a particle moving in a straight line is given by,*  
 $v = 3t^2 + 2t$  *where  $v$  is measured in m/s and  $t$  is measured in s.*

*Find an expression for the displacement at time,  $t$ .*

*If the initial displacement is 1m, find an expression for the constant of integration.*

*Hence determine the displacement after a time period of 2s has elapsed.*