

### Answer on Question#52031, Physics, Quantum Mechanics

We are given  $x(t) = 5t^2 + 1$  .

The average velocity between time  $t = 2\text{ s}$  and  $t = 3\text{ s}$  by definition is  $v = \frac{x(3) - x(2)}{3 - 2}$  . The positions at times  $t = 2\text{ s}$  and  $t = 3\text{ s}$  are  $x(2) = 21\text{ m}$  and  $x(3) = 46\text{ m}$  respectively.

Plugging in these values into formula for average velocity, obtain  $v = \frac{46\text{ m} - 21\text{ m}}{1\text{ s}} = 25\frac{\text{m}}{\text{s}}$  .