Answer on Question #71527-Physics-Other

The position of a particular moving in a straight line is given by x=3+4t+3t2 Where x is in the meter and time is in second find the values of the following physical quantities for the particular at t =2s

1) Position

2) Displacement

3) Velocity

4) Acceleration

Solution

1.

$$x(2) = 3 + 4(2) + 3(2)^2 = \ 23\ m.$$

2.

$$d = x(2) - x(0) = 23 - 3 = 20\ m.$$

3.

$$v = 4 + 6t$$

$$v(2) = 4 + 6(2) = 16\frac{m}{s}.$$

4.

$$a = 3\frac{m}{s^2}.$$