**Motion of a Particle**

(a) The distance of a particle at time is given by . Find an expression for the velocity of the particle, and the velocity after 6 seconds.

(b) The distance of a particle at time is given by . Find an expression for the velocity of the particle, and the velocity after 2 seconds.

(a) The distance of a particle at time is given by . Find expressions for the velocity and acceleration of the particle. Find the acceleration after 4 seconds.

(b) The distance of a particle at time is given by . Find expressions for the velocity and acceleration of the particle. Find the acceleration after 0.5 seconds.

(a) The distance of a particle at time is given by . Find the time at which the velocity is instantaneously zero.

(b) The distance of a particle at time is given by . Find the time at which the acceleration is instantaneously zero.

A particle travels in a straight line where the distance from the origin O is given by . Find the velocity and acceleration of the particle after 5 seconds.

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