2013 **10** A particle is moving along the x-axis. The displacement of the particle at time t seconds is x metres. At a certain time, $\dot{x} = -3 \text{ m s}^{-1}$ and $\ddot{x} = 2 \text{ m s}^{-2}$. Which statement describes the motion of the particle at that time? **1**

(A) The particle is moving to the right with increasing speed.
(B) The particle is moving to the left with increasing speed.
(C) The particle is moving to the right with decreasing speed.
(D) The particle is moving to the left with decreasing speed.

D

$\dot{x} = -3$ means the particle is moving to the left; as $\ddot{x} = +2$, the particle is slowing down.

$\therefore$ particle is moving to the left with decreasing speed.

State Mean: **0.26**