

**Mathematics Questions by Topics**

Motion and Force

Question 27

Source: K12SM2Q14

**Question 27**

A body moves in a straight line such that its velocity  $v \text{ ms}^{-1}$  is given by  $v(x) = e^{2x} - e^{-2x}$ , where  $x$  metres is its displacement from the origin. The acceleration of the body in  $\text{ms}^{-2}$  is given by

- A.  $4(e^{4x} - e^{-4x})$
- B.  $2(e^{4x} - e^{-4x})$
- C.  $e^{4x} - e^{-4x}$
- D.  $2(e^{2x} + e^{-2x})$
- E.  $-4x$