Question 32

A body of mass *m* kg moves in a straight line, its velocity is *v* ms^{-1} at a time *t* seconds. The force acting on the body is $f(t)$ newtons.

Given that $v = v_1$ when $t = t_1$ and $v = v_2$ when $t = t_2$, it follows that

A. $mv_2 - mv_1 = f(t_2) - f(t_1)$

B. $mv_2 - mv_1 = \int_{t_1}^{t_2} f(t)\,dt$

C. $v_2 - v_1 = m\int_{t_1}^{t_2} f(t)\,dt$

D. $\frac{1}{2}mv_2^2 - \frac{1}{2}mv_1^2 = f(t_2) - f(t_1)$

E. $\frac{1}{2}mv_2^2 - \frac{1}{2}mv_1^2 = \int_{t_1}^{t_2} f(t)\,dt$

