

- 8** A constant force  $F$  is applied to a stationary object of mass  $m$  on a frictionless surface. The object accelerates uniformly to reach a velocity  $v$  in time  $t$  covering a distance  $s$  during this time.

Which of the following is the correct expression for the kinetic energy of the object at time  $t$ ?

**A**  $Fv$

**B**  $Fvt$

**C**  $Fs$

**D**  $Fst$