

ODE: $\dot{v} + v = 0.5u(t)$ where $u(t) = \begin{cases} 0, & t < 0 \\ 10, & t \geq 0 \end{cases}$

Solution:

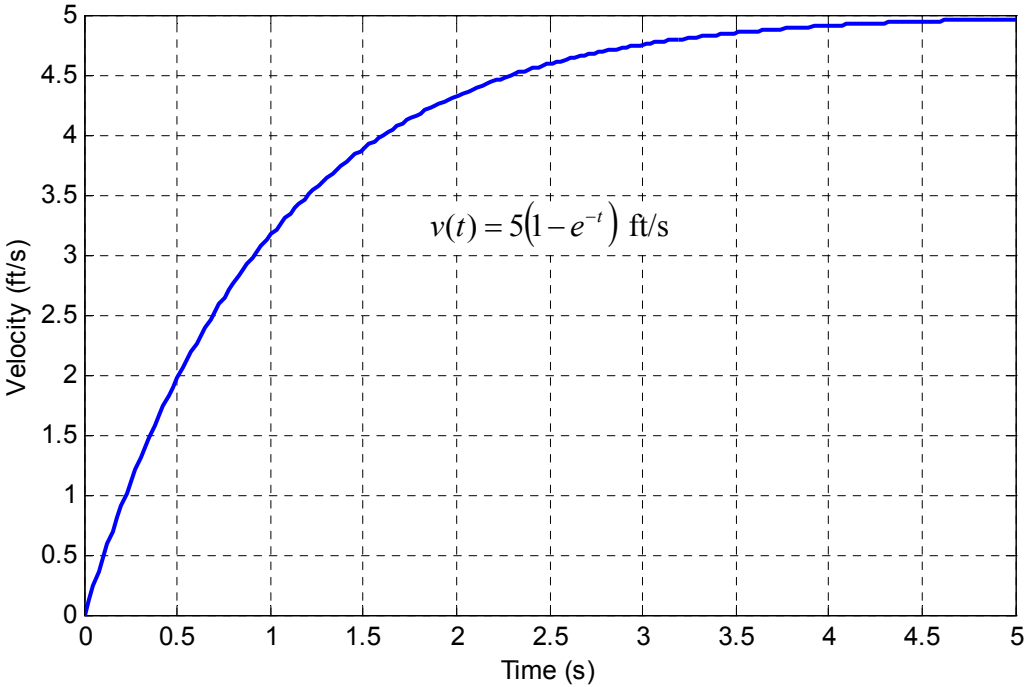


Fig. 11.1: Step response of a linear, first-order mechanical system.