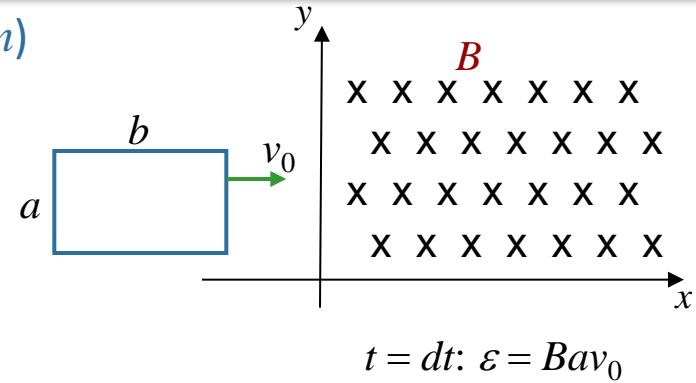


Follow Up

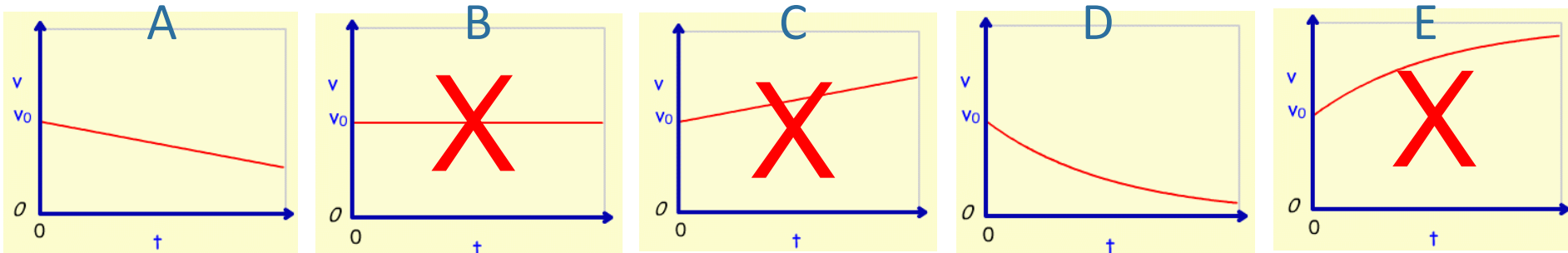


A rectangular loop (sides = a, b , resistance = R , mass = m) coasts with a constant velocity v_0 in $+x$ direction as shown. At $t = 0$, the loop enters a region of constant magnetic field B directed in the $-z$ direction.



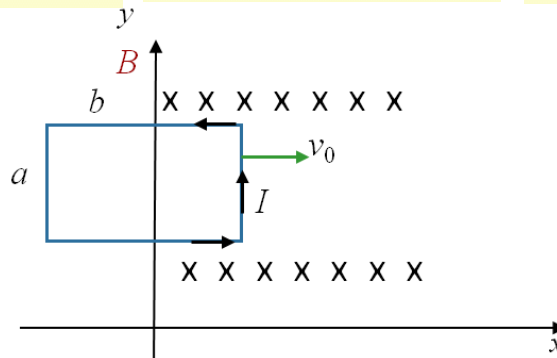
What is the velocity of the loop when half of it is in the field?

Which of these plots best represents the velocity as a function of time as the loop moves from entering the field to halfway through?



This is not obvious, but we know v must decrease

Why?



F_{right} points to left
Acceleration negative
Speed must decrease