

**Chapter 7, Problem 83.**

A RC circuit consists of a series connection of a 120-V source, a switch, a  $34\text{-M}\Omega$  resistor and a  $15\text{-}\mu\text{F}$  capacitor. The circuit is used in estimating the speed of a horse running a 4 km racetrack. The switch closes when the horse begins and opens when the horse crosses the finish line. Assuming that the capacitor charges to 85.6 V, calculate the speed of the horse.