

Ch 20 HW Quiz #1A

A circuit contains a 12 Volt battery, a 3.0 Ohm resistor and a 24 μF capacitor. At $t=0$, the capacitor is uncharged, and a switch is closed allowing current to begin flowing to charge the capacitor.

At the moment when the voltage drop across the resistor is equal to the voltage drop across the capacitor, how many time constants have elapsed?