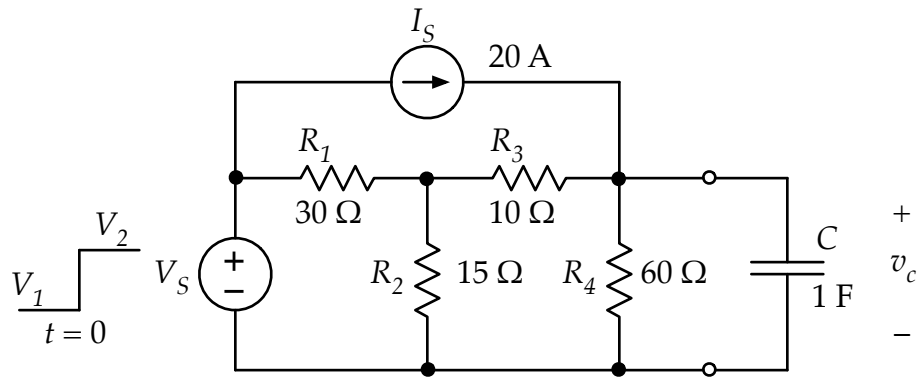


In the circuit shown at right, the voltage source is initially at -1200 V, and has been at that voltage “for a very long time”. At $t = 0$, the source voltage jumps abruptly to +1200 V.



Find the effective RC constant for the circuit (Note unusually large value of the capacitor.) Determine the expression for the capacitor voltage as a function of time (with the correct numbers, not just variables). Determine the time at which the capacitor voltage crosses +500 V.

$RC =$ _____

$v_c(t) =$ _____

$t =$ _____