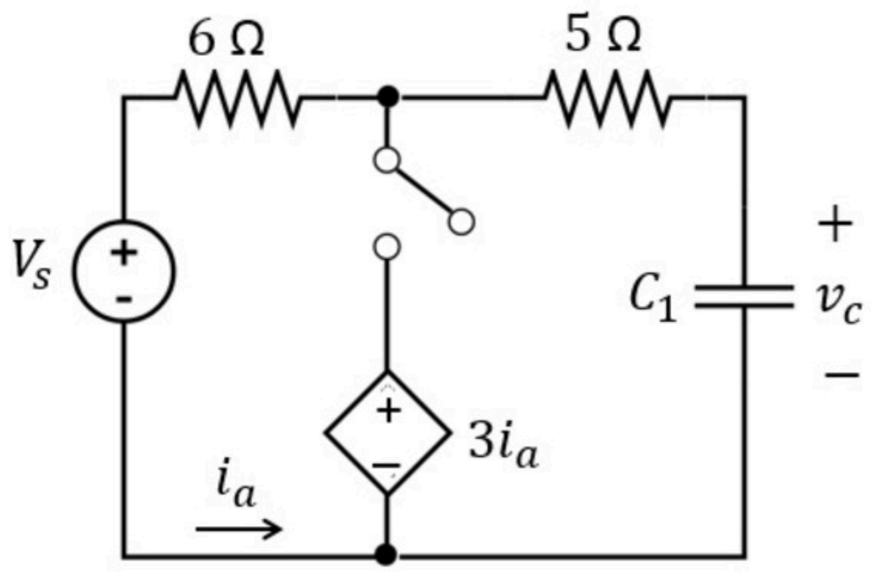
First order circuits 003

Problem has been graded.

The switch has been open for a long time before it closes at time $t = 0$.

Find the capacitor voltage $v_c = A + B \cdot e^{-t/\tau}$ for $t > 0$.



Given Variables:

Vs : 15 V

C1 : 0.1 nF

Calculate the following:

A (V) :

-15 ✓

B (V) :

30 ✓

tau (ns) :

0.5 ✓

Hint: First find the capacitor voltage at t = 0-. Note where A and B are.