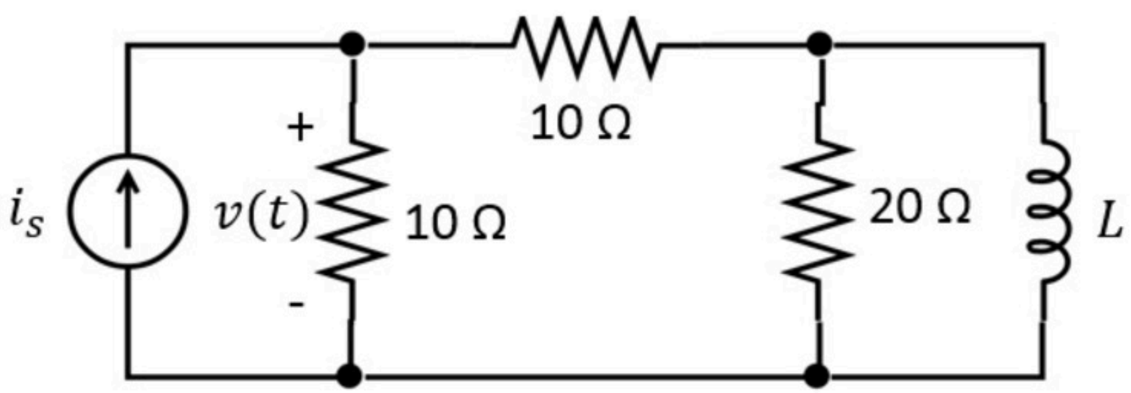
First order circuits 006

Problem has been graded.

When $t < 0$, $i_s = I_0$

When $t > 0$, $i_s = I_1$

Find $v(t) = A \cdot e^{-t/\tau} + B$ for $t > 0$



Given Variables:

I0 : 2 A

I1 : 10 A

L : 0.25 uH

Calculate the following:

A (V) :

20 ✓

B (V) :

50 ✓

tau (ns) :

25 ✓

Hint: What is the inductor current for t < 0?