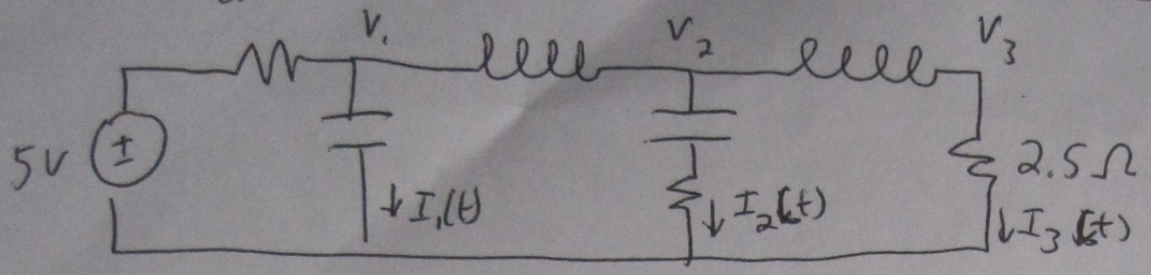
Name: _____

Pop Quiz Pg 1

Not for a grade!



Cap: $i_C = C\frac{dV_C}{dt}$

Ind: $V_L = L\frac{dI_L}{dt}$

Hint;
If you forgot how Cs and Ls act in steady state, remember that

Find $I_1(\infty) =$ $V_1(\infty) =$

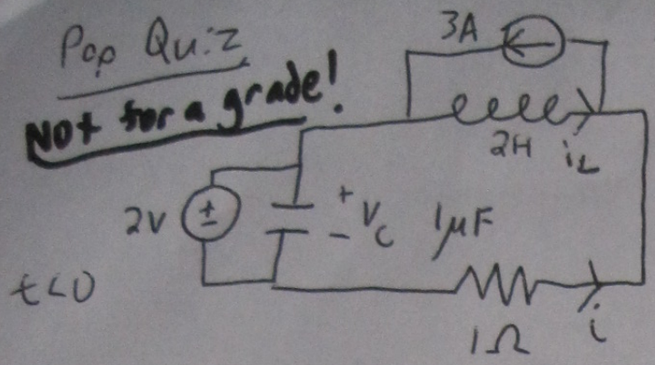
$I_2(\infty) =$ $V_2(\infty) =$

$I_3(\infty) =$ $V_3(\infty) =$

Pop Quiz

Not for a grade!

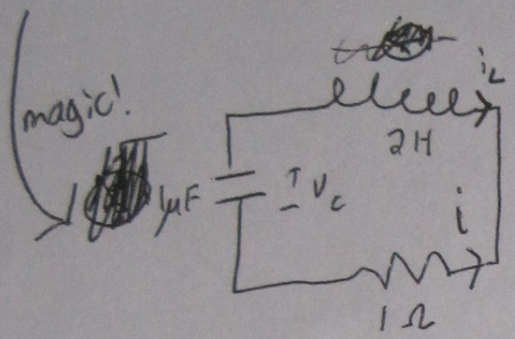
Name:



Both sources are DC and have been on forever, when suddenly, at $t=0$, they are completely destroyed by some external magic.

0. $i_L(-5) =$ $v_c(-5) =$

1. Find $i(0)$, $\frac{di}{dt}(0)$ ← easy to get stuck, so move on if you do get stuck.



Not magic,

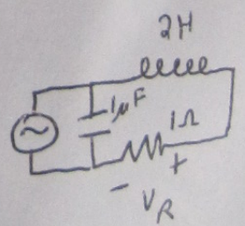
2. Describe qualitatively how $i(t)$ might look.

Briefly describe

3. How would you find the homogeneous solution? (natural response)

4. How would you find the particular solution? (forced response). What is it (a.k.a steady state)

5. Suppose we added an AC source $v_{in}(t) = \cos(2t)$



How would we find the steady state of $v_R(t)$?

6. If we set $v_{in}(t) = \cos(\omega t)$. What is $H(j\omega) = \frac{V_R}{V_{in}}$?