

# Electric Circuits II – Assignment 02 - Source Free RL circuit, Singularity functions

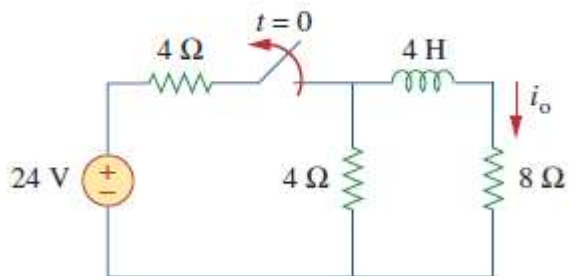
#	Student ID	Student Name	Grade (10)
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Delivery Date	
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<p>١. يتم تسليم التمرين محلولا في خلال أسبوع من تاريخ التمرين، و يتم حذف درجتين من التمرين عن كل أسبوع تأخير ٢. يتم التسليم لمعيد المقرر مباشرة ٣. تتم أجابه التمرين في نفس ورق الأسئلة</p>
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Q1

For the circuit in Fig. 7.91, find  $i_o$  for  $t > 0$ .



Sol 1

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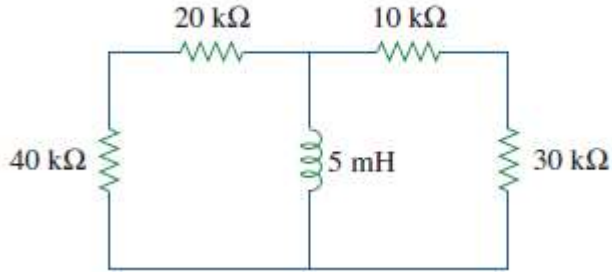
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Q2

Calculate the time constant of the circuit in Fig. 7.94.



Sol 2

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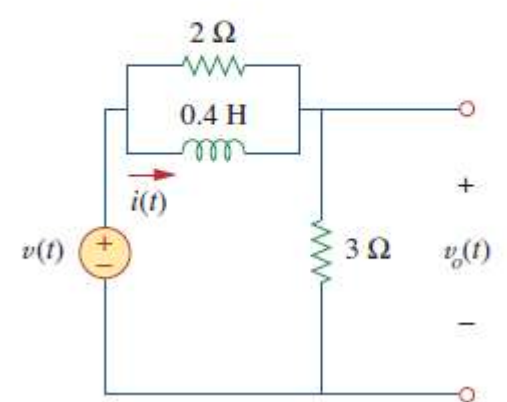
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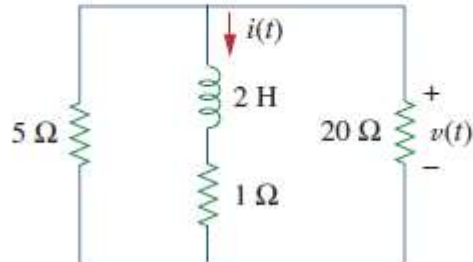
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Q3	<p>For the circuit in Fig. 7.98, determine <math>v_o(t)</math> when <math>i(0) = 5 \text{ A}</math> and <math>v(t) = 0</math>.</p> <div style="text-align: center; margin: 20px 0;">  </div>
Sol 3	<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>



Q4

Find  $i(t)$  and  $v(t)$  for  $t > 0$  in the circuit of Fig. 7.102 if  $i(0) = 10$  A.



Sol 4

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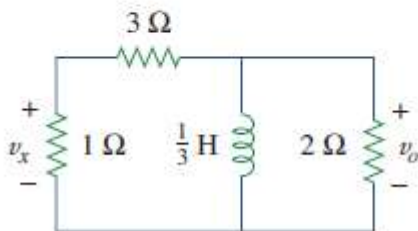
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Q5

Consider the circuit in Fig. 7.103. Given that  $v_o(0) = 10$  V, find  $v_o$  and  $v_x$  for  $t > 0$ .



Sol 5

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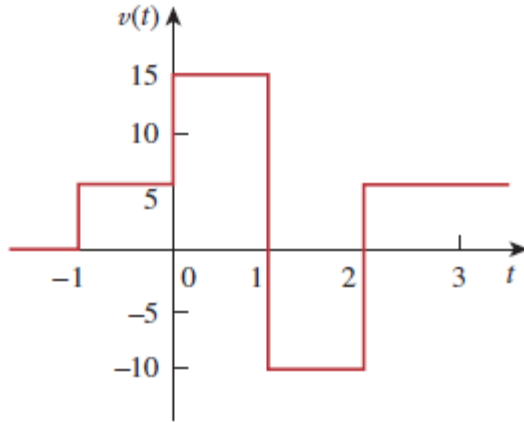
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Q6

Express  $v(t)$  in Fig. 7.105 in terms of step functions.



Sol 6

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