Capacitors Inductors 004

Problem has been graded.

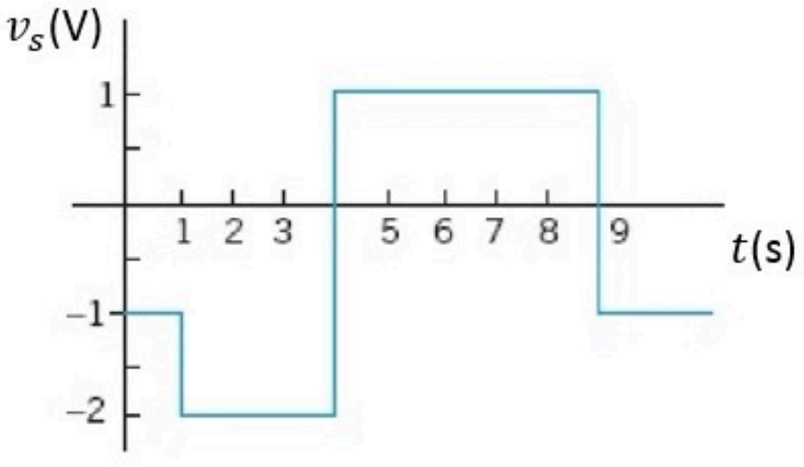
Find the current $i(t)$ in the circuit, when $i(0) = 1$ A and the voltage is as shown in the graph.

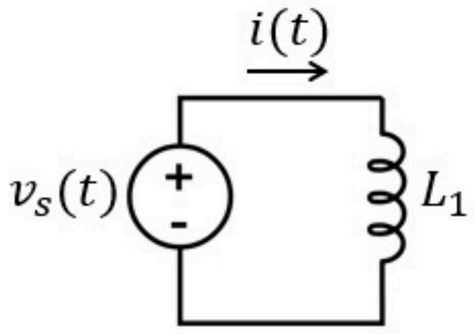
$i(t) = a_1 t + a_2$ for 0 s < t < 1 s

$i(t) = a_3 t + a_4$ for 1 s < t < 4 s

$i(t) = a_5 t + a_6$ for 4 s < t < 9 s

$i(t) = a_7 t + a_8$ for 9 s < t





Given Variables:

L1 : 0.2 H

Calculate the following:

a1 (A/s) :

-5 ✓

a2 (A) :

1 ✓

a3 (A/s) :

-10 ✓

a4 (A) :

6 ✓

a5 (A/s) :

5 ✓

a6 (A) :

-54 ✓

a7 (A/s) :

-5 ✓

a8 (A) :

36 ✓

Hint: Make sure your offsets of the line segments are correct