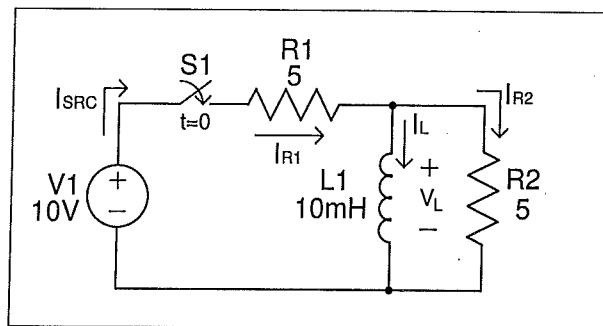


Inductors

3. For the circuit below:

- What is the value of I_L at time t_0+ ?
- What is the value of V_{L1} at time t_0+ ?
- What is the value of I_{SRC} at time t_0+ ?
- What is the value of I_L at time $t = \infty$?
- What is the value of I_{R2} at time $t = \infty$?



- I_L at $t=t_0+$ is zero as current cannot change instantaneously through the inductor.
- V_{L1} at $t=t_0+$ is 5V. Since no current flows through L_1 , $R_1 + R_2$ form a voltage divider.
- I_{SRC} at $t=t_0+$ is $(10/5+5)$ since no current is flowing through the inductor. (1Amp)
- At $t=\infty$, the inductor is a short circuit to DC, so $I_L = 10/5 = 2A$.
- At $t=\infty$ $I_{R2} = 0A$, since L_1 is a short circuit across R_2 .