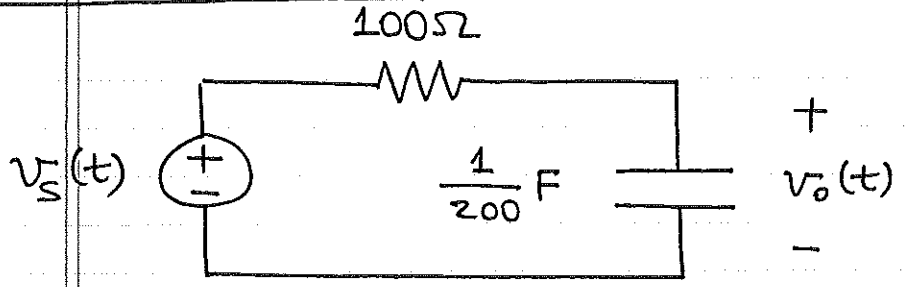
## Practice Problem:




In the above circuit, $x(t) = v_s(t)$ and $y(t) = v_o(t)$.

Find the following:

(a) $H(s)$ (transfer function)

(b) $h(t)$ (impulse response)

(c) $v_o(t)$ when $v_s(t) = 10\,u(t)$

(d) $v_o(t)$ when $v_s(t) = 10\,u(-t)$

(e) $v_o(t)$ when $v_s(t) = 10 + 10\,u(-t)$

(f) $v_o(t)$ when $v_s(t) = 10\,e^{-t}\,u(t)$

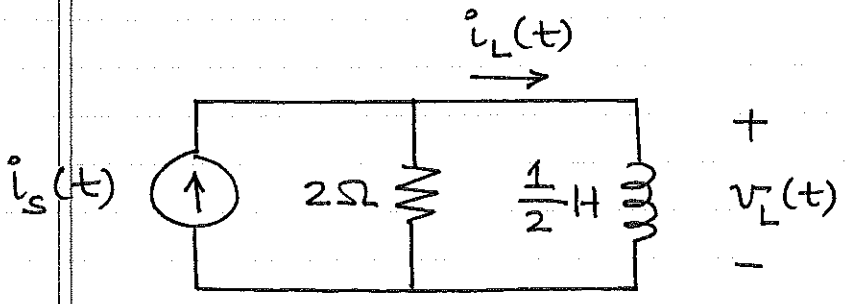
(g) $v_o(t)$ when $v_s(t) = 10te^{-t}\,u(t)$

(h) $v_o(t)$ when $v_s(t) = 10\cos(3t)\,u(t)$

(i) $v_o(t)$ when $v_s(t) = 10e^{-t}\,u(t) + 10\,u(-t)$

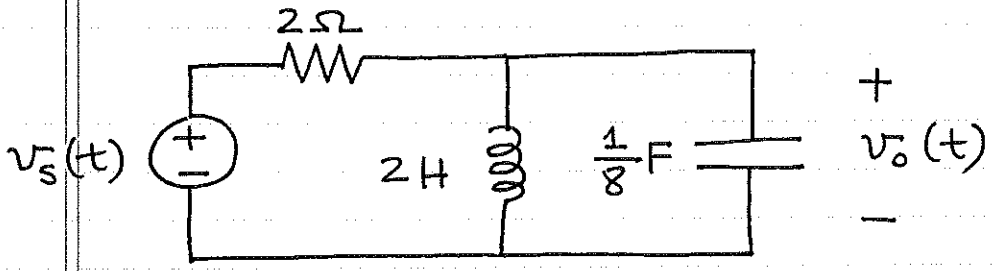
(j) $v_o(t)$ when $v_s(t) = 10\cos(3t)\,u(t) - 10\,u(-t)$

## Practice Problem:



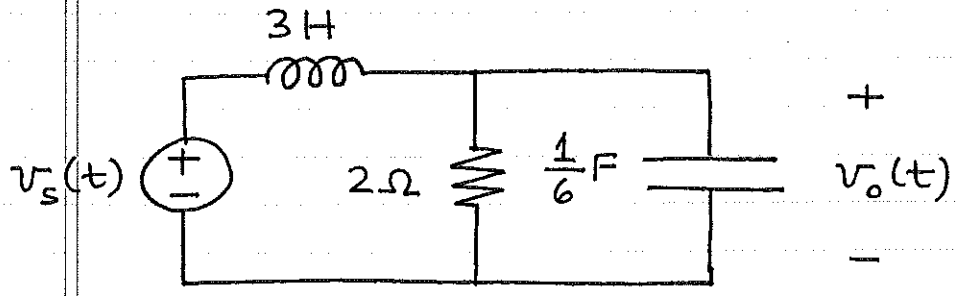

In the above circuit, $x(t) = i_s(t)$ and $y_1(t) = i_L(t)$ and $y_2(t) = v_L(t)$.

## Practice Problem:



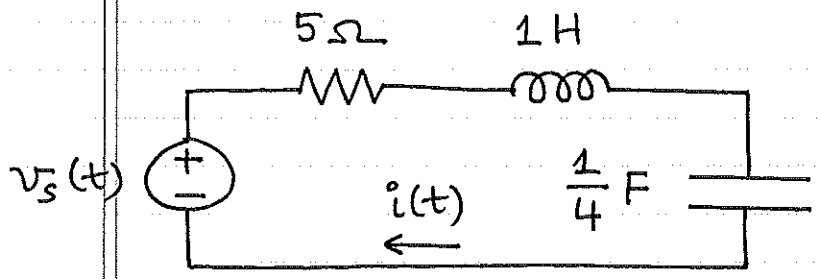

In the above circuit, $x(t) = v_s(t)$ and $y(t) = v_o(t)$.

## Practice Problem:



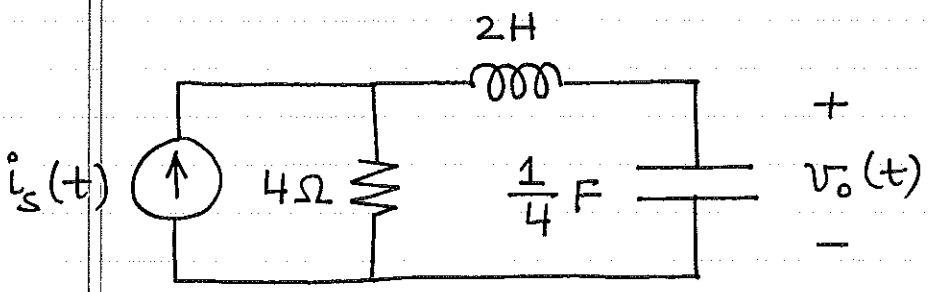

In the above circuit, $x(t) = v_s(t)$ and $y(t) = v_s(t)$.

## Practice Problem:




In the above circuit, $x(t) = v_s(t)$ and $y(t) = i(t)$.

## Practice Problem:




In the above circuit, $x(t) = i_s(t)$ and $y(t) = v_o(t)$.