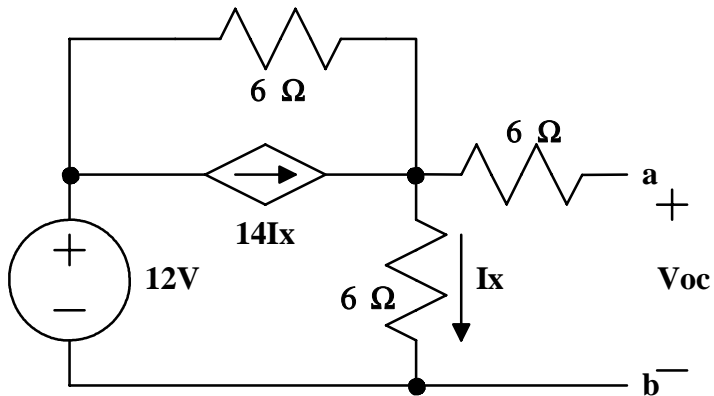


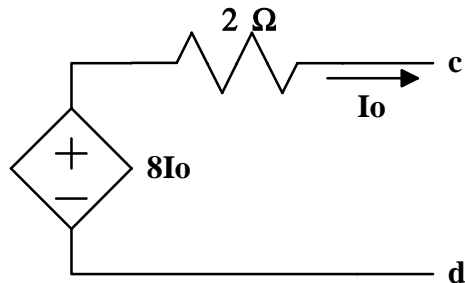
**PHY 3270
EXAM #2**

1.

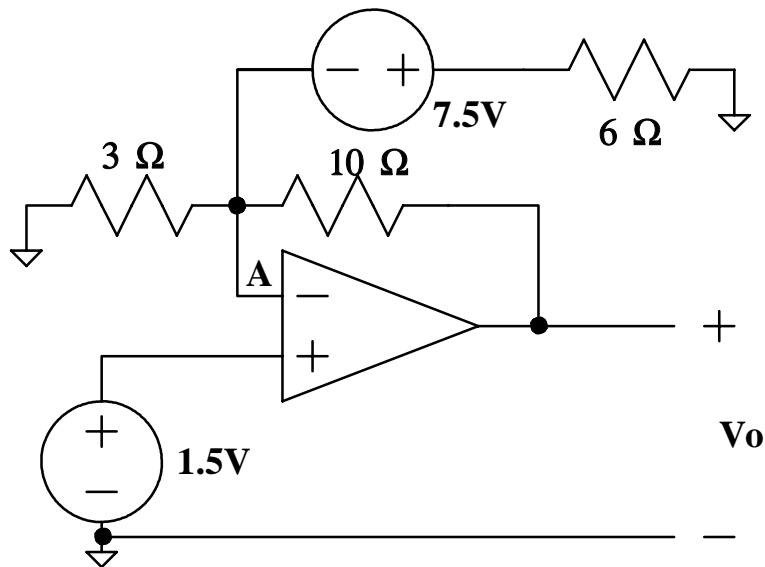


- (a.) Find the open circuit voltage between terminals a and b.
- (b.) Find the short circuit current that would flow between a and b when a is shorted to b.
- (c.) Show the Thevenin equivalent of this circuit?

2. Find the Thevenin resistance between terminals c and d for the circuit shown below.

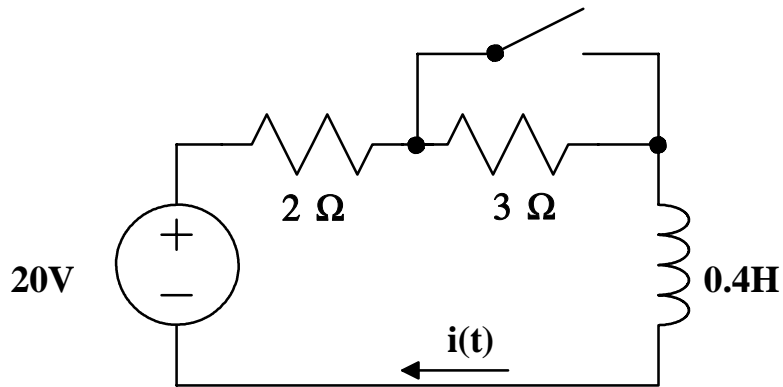


3. Determine the output voltage for the ideal op amp circuit shown below. The op amp is powered with a +/- 24V bipolar supply.



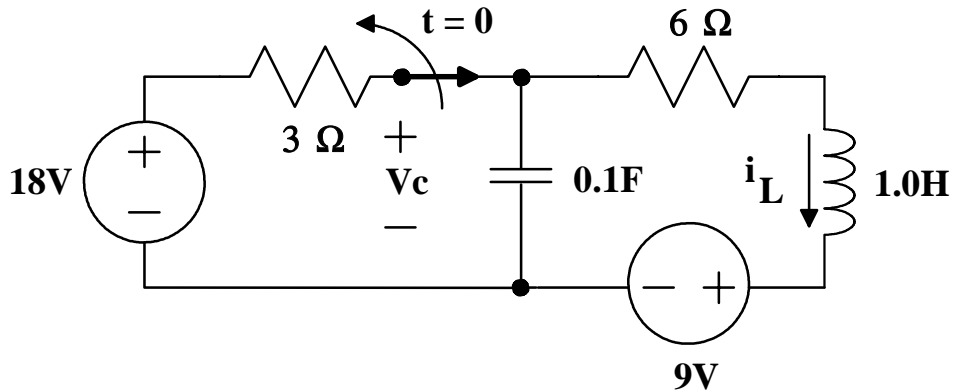
4. If the op amp above is powered with a +/- 12V source, what is the node voltage at A?

5.



The switch in the circuit above has been open a long time. At $t=0$ the switch is closed. Find $i(t)$ for $t > 0$.

6.



The switch has been closed for a very long time. At $t = 0$ the switch is opened.

(a.) Determine $V_c(0^+)$, $i_L(0^+)$, $\frac{dV_c}{dt}(0^+)$, and $V_c(\infty)$.

(b.) Find $V_c(t)$ for times $t \geq 0$.