

**Boise State University**  
**Electrical and Computer Engineering Department**

EE 210: Circuits I  
Spring 2018

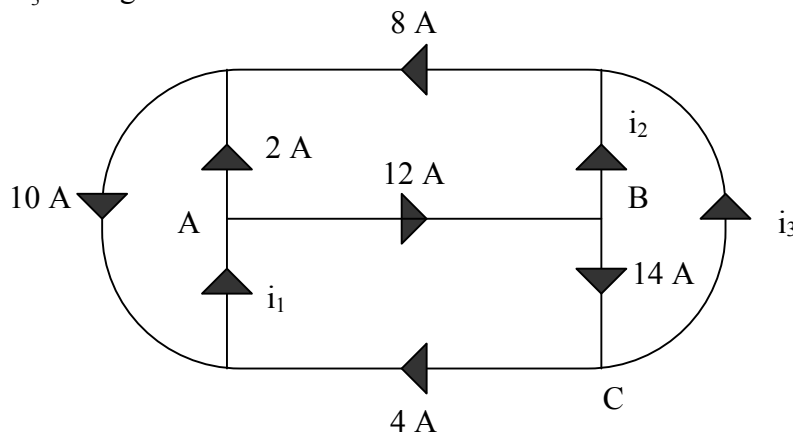
HW #2  
Due Date: January 31 2018

**Problem 1**

A bar of silicon is 4 cm long with a circular cross section. If the resistance of the bar is  $240 \Omega$  at room temperature, what is the cross-sectional radius of the bar?

**Problem 2**

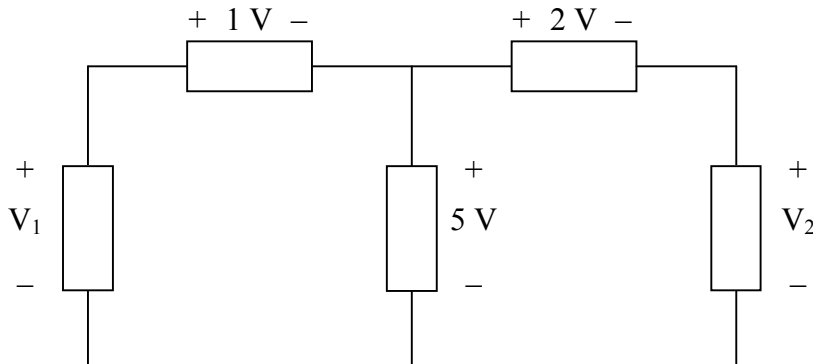
Find  $i_1$ ,  $i_2$ , and  $i_3$  in Fig. 1.



**Figure 1**

**Problem 3**

In the circuit of Fig. 2, calculate  $V_1$  and  $V_2$ .



**Figure 2**

### Problem 4

Calculate  $v$  and  $i_x$  in the circuit of Fig. 3.

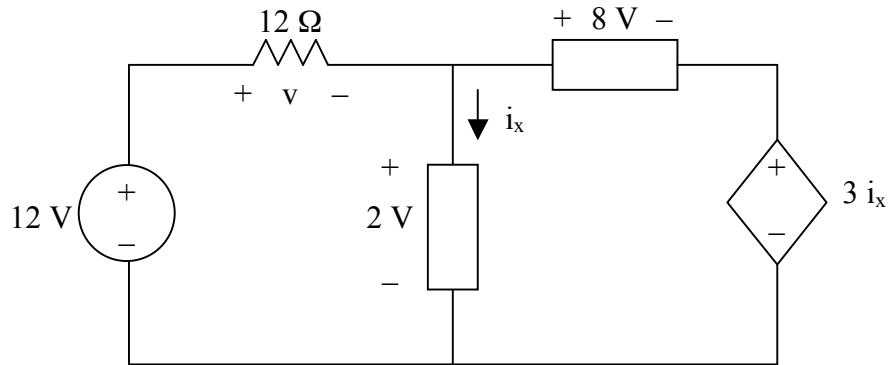


Figure 3

### Problem 5

Obtain  $v_1$  through  $v_3$  in the circuit in Fig. 4

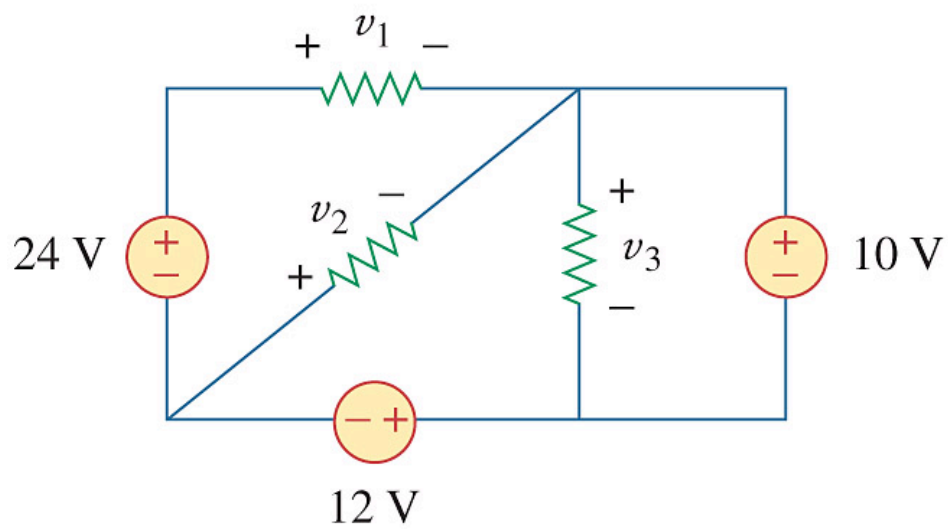
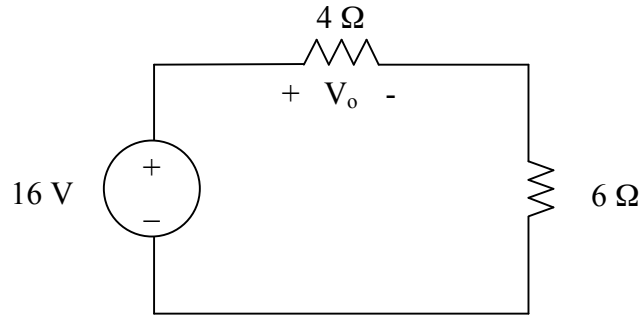


Figure 4

**Problem 6**

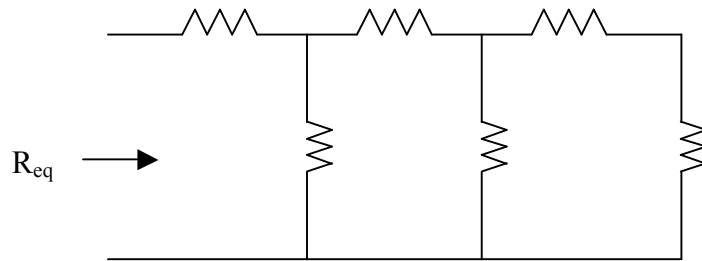
Calculate  $V_o$  in the circuit of Fig. 5



**Figure 5**

**Problem 7**

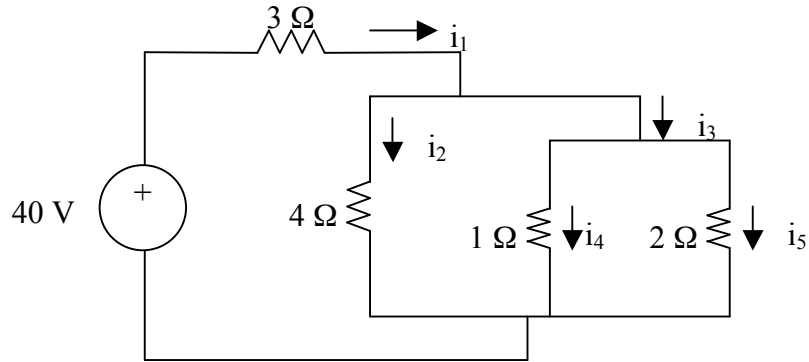
All resistors in Fig. 6 are 1 Ω each. Find  $R_{eq}$ .



**Figure 6**

**Problem 8.**

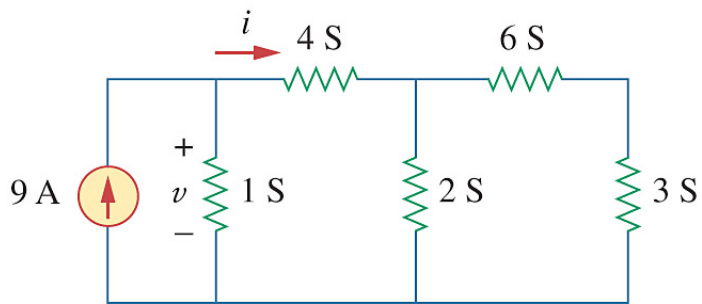
For the circuit in Fig. 7, determine  $i_1$  to  $i_5$ .



**Figure 7**

**Problem 9.**

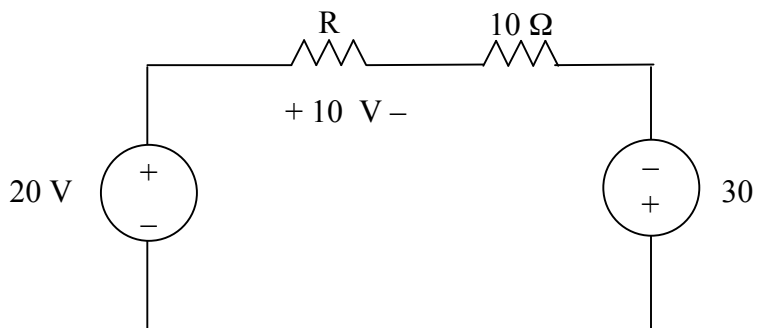
Obtain  $v$  and  $i$  in the circuit in Fig. 8.



**Figure 8**

**Problem 10.**

Find  $R$  for the circuit in Fig. 9.



**Figure Fig 9**