



**Birzeit University**  
**Faculty of Engineering and Technology**  
**Department of Electrical and Computer Engineering**  
**Circuit Analysis – ENEE 2304**  
**Quiz #2**

10 December 2022

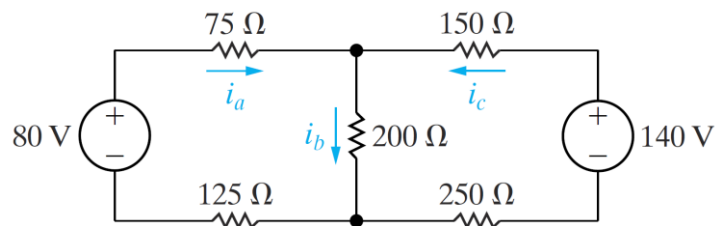
Dr. Jaser Sa'ed

Time: 10 min

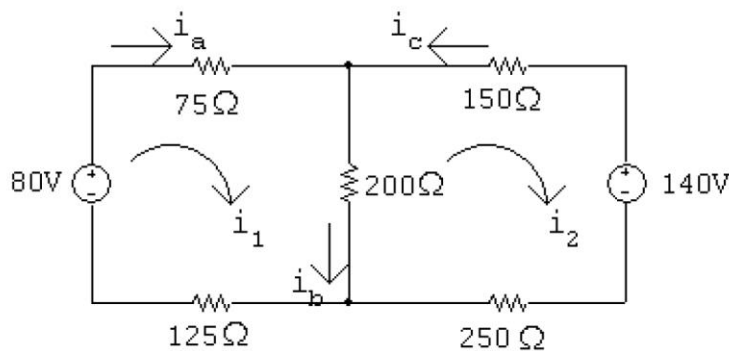
Student Name:

ID Number:

Use the mesh analysis method to find the branch currents  $i_a$ ,  $i_b$ , and  $i_c$  in the circuit in Figure below.



**Solution**



$$80 = 400i_1 - 200i_2$$

$$-140 = -200i_1 + 600i_2$$

Solving,  $i_1 = 0.1 \text{ A}$ ;  $i_2 = -0.2 \text{ A}$

$$i_a = i_1 = 0.1 \text{ A}; \quad i_b = i_1 - i_2 = 0.3 \text{ A}; \quad i_c = -i_2 = 0.2 \text{ A}$$