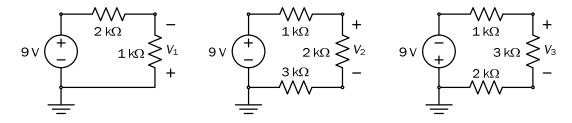
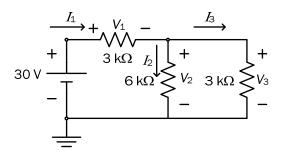
You are allowed to use your lab manual and lab notebook during the quiz.

1. (30 points) Three separate circuits are shown. Determine the values of voltages  $V_1$ ,  $V_2$ , and  $V_3$  as indicated.



2. (40 points) In the circuit shown, find  $I_1$ ,  $I_2$ ,  $I_3$ ,  $V_1$ ,  $V_2$ , and  $V_3$ . Show your work step by step and provide appropriate units for your answers.



3. (30 points) Using a fixed 10 V dc voltage source and only four 1 k $\Omega$  resistors, design a voltage-divider circuit to produce an output voltage of value 4 V. Draw the voltage-divider circuit completely and clearly indicate the two terminals across which the measured voltage will equal 4 V.