

**Submissions accepted:** 7/31/2013 | 12:00 AM

Review: Full, Anonymous: No

## Fundamental Properties of DC Circuits

### Parallel Resistive Circuits

- Watch **video** entitled "Module 5 – Parallel Resistive Circuits"
- For Laboratory Application Assignment on pgs. 166-167 examine Fig. 5-38.
  1. Perform calculations for:
    1.  $I_1$  (current through R1)
    2.  $I_2$  (current through R2)
    3.  $I_3$  (current through R3)
    4.  $I_t$  (total current delivered by voltage source)
    5.  $R_{eq}$  (equivalent resistance)
    6.  $V_1$  (voltage across R1)
    7.  $V_2$  (voltage across R2)
    8.  $V_3$  (voltage across R3)
    9.  $P_1$  (power dissipated in R1)
    10.  $P_2$  (power dissipated in R2)
    11.  $P_3$  (power dissipated in R3)
    12.  $P_t$  (total power dissipated by the parallel circuit)
  2. Scan all calculations showing all work in a file called "Lab5\_Analysis\_StudentID".
  
- Simulation:
  1. Construct the parallel circuit in Fig. 5-38 with MultiSIM.
    1. Measure the values:
    2.  $I_1$  (current through R1)
    3.  $I_2$  (current through R2)
    4.  $I_3$  (current through R3)
    5.  $I_t$  (total current delivered by voltage source)
    6.  $R_{eq}$  (equivalent resistance)
    7.  $V_1$  (voltage across R1)
    8.  $V_2$  (voltage across R2)
    9.  $V_3$  (voltage across R3)
    10.  $P_1$  (power dissipated in R1)
    11.  $P_2$  (power dissipated in R2)
    12.  $P_3$  (power dissipated in R3)
    13.  $P_t$  (total power dissipated by the parallel circuit)
  2. Capture a screenshot of measured values and paste into a Word document entitled "Lab5\_Simulation\_StudentID"
  3. Answer all questions in the "Parallel Circuit Characteristics" section on pgs. 166-167 in this same document.
  
- Design Challenge section is not required.