Set 1.1 – Additional Problems
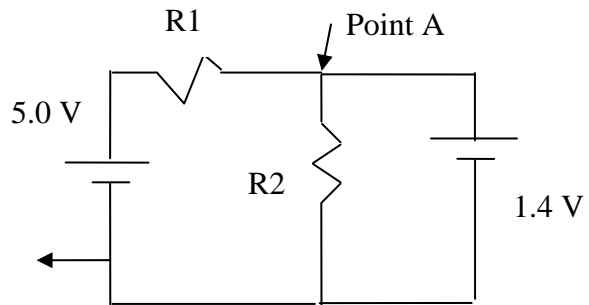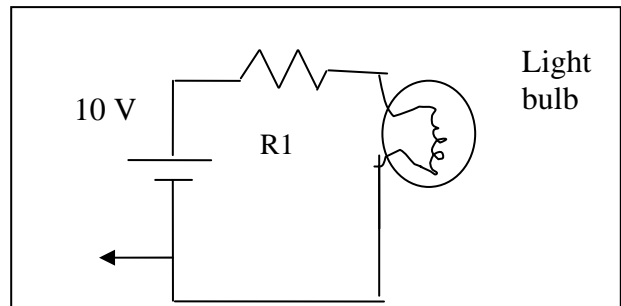
1.1.1. Given the following circuit to the right
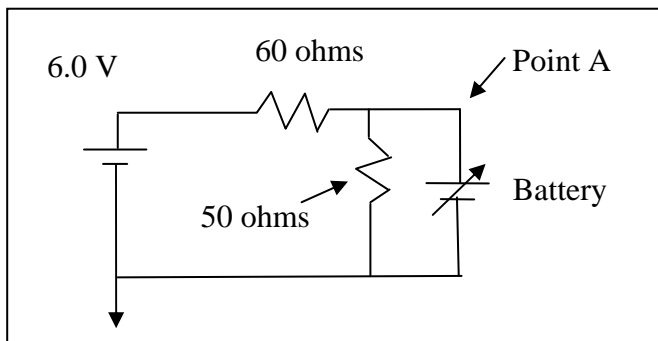**with R1 = 360 Ω and R2 = 140 Ω**
determine:
a) the current through each resistor.
b) the voltage at point A.
c) the power dissipated through R2.

1.1.2. Calculate the resistance of R1 in order to have 15 W of power supplied to the light
bulb if the resistance of the light bulb is 3.4 Ω.

1.1.3. The following circuit can be use to charge a battery.

a) If the battery initially can supply a potential (or voltage) of 2.3 V, calculate:
**   i) the potential at point A (relative to ground)**
**   ii) the current through the 60 ohm resistor (defined from +6.0 V to Point A)**
**   iii) the current to the battery (from top to bottom)**
b) As the battery is charged (and its potential increases), what is the voltage it will reach
where it no longer receives current from the 6.0 V power supply?