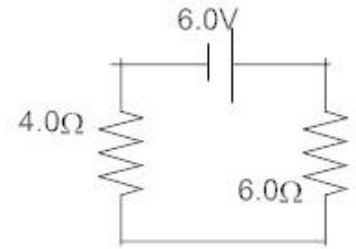


Show ALL of your work to receive full credit. Writing only the answer receives a mark of 0. This assignment is **due at the end of class**.

1) For the circuit shown, find:

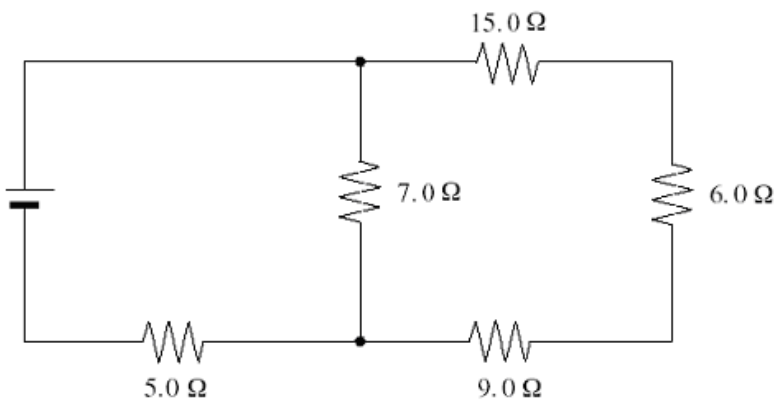
- The power output of the $4.0\ \Omega$ resistor and (3 marks)
- The number of electrons passing through the $6.0\ \Omega$ resistor every minute. (2 marks)



2) There are approximately 110 million households that use TVs in the United States. Each TV uses, on average, 75W of power and is turned on for 6.0 hours a day. If electrical energy costs \$0.12 per kWh, how much money is spent every day in keeping 110 million TVs turned on? One kilowatt hour is the amount of energy consumed when 1000 watts of power operates for 1 hour. (4 marks)

3) The potential difference across the $6.0\ \Omega$ resistor in the circuit shown is 12.5 V.

- What is the current in the $5.0\ \Omega$ resistor? (4 marks)
- What is the power output of the battery? (2 marks)

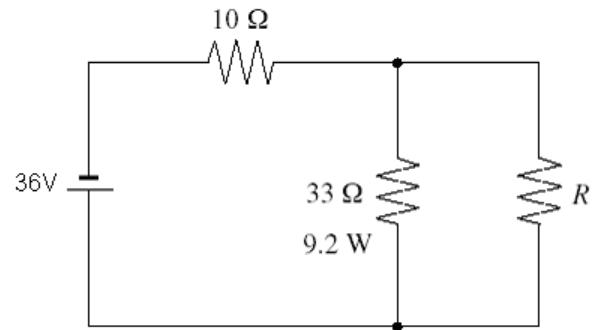


Name: _____

In Class Assignment

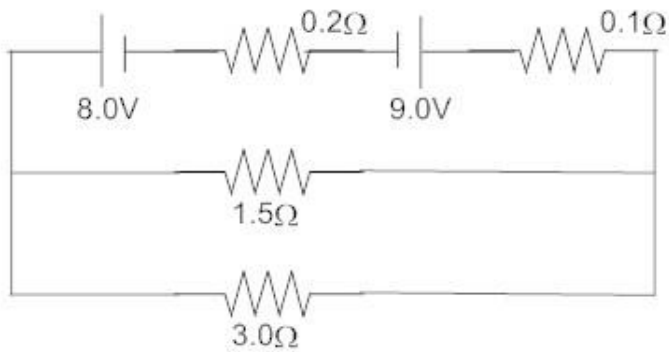
Phys 12

4) What is the total power dissipated by the three resistors in the circuit shown below? (4 marks)



Bonus)

Find the current in the 1.5Ω resistor. (Note the opposing polarities of the batteries.)



ANS: 1) a) 1.44W b) 2.25×10^{20} 2) 5.94 million dollars 3) a) 11A b) 1294W → 1000W 4) 67W