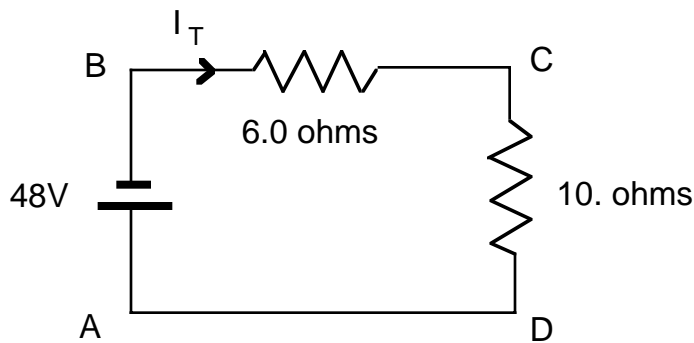
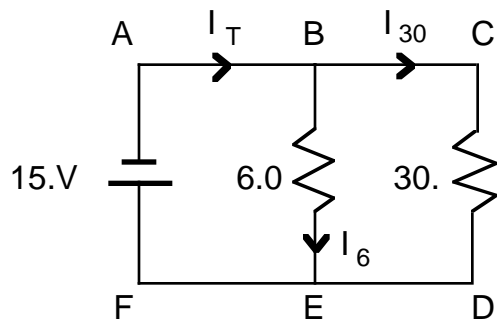


Current, Voltage and Circuits : Quiz-50

- 1)a) If 2.3 C of electrons move through a wire in 0.85 s, find the current.
- b) Find the amount of time required for a current of 5.3 A to transfer a charge of 38 C.
- 2) An electric heater draws a current of 8.0 A at 120 volts.
- a) What is the resistance of the heater element?
- b) What is the power rating for the heater?
- c) How much energy in joules is necessary to move 3.6 C of charge through the heater element?
- d) How much time must the heater be on to use 5.2×10^5 J of electrical energy.
- 3) The diagram below shows a series circuit.

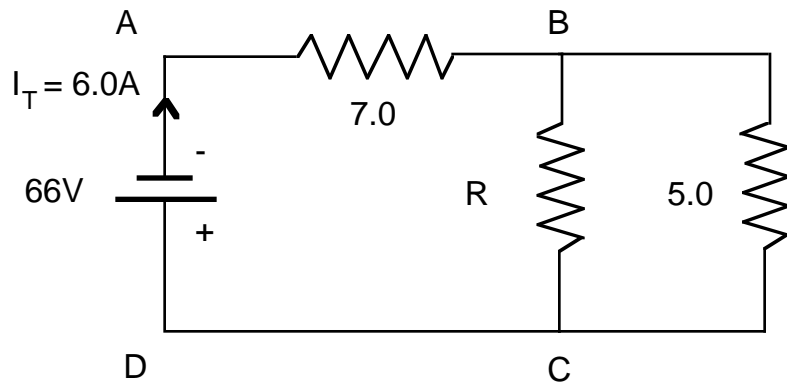


- a) Find the total current.
- b) Find the potential difference across the 6.0Ω resistor.
- 4) The diagram below shows a parallel circuit.



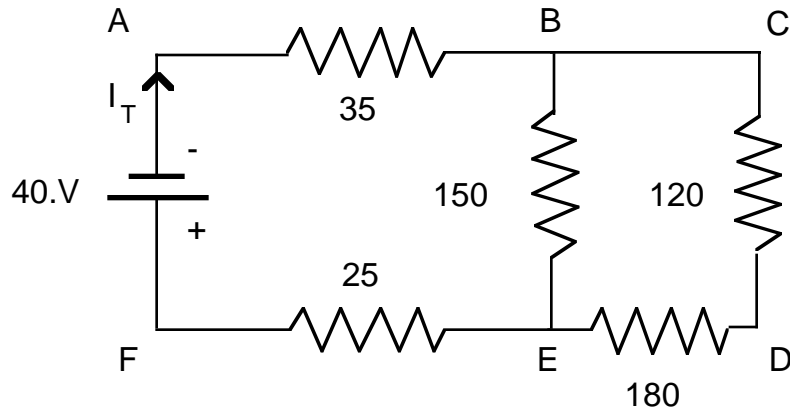
- a) Find the total resistance R_T .
- b) Find V_6 and V_{30} .
- c) Find I_T , I_6 , and I_{30} .

5)



- a) Find I_5 .
- b) For the circuit above, find the resistance R .

6)



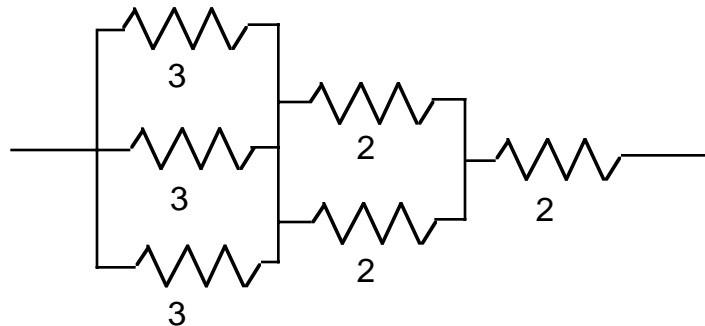
a) In the above circuit the values of the resistors are shown. Find the total resistance R_T .

b) Find the following : I_T , V_{35} , V_{150} and I_{180} .

7)a) Make a resistor using three 2 ohm resistors and three 3 ohm resistors to make a total resistance of exactly 4 ohms.

b) Use the same resistors to make a resistor with a total resistance of exactly 6 ohms.

Answers : 1)a) 2.7 A, b) 7.2 s, 2)a) 15 Ω , b) 960 W, c) 430 J, d) 540 s, 3)a) 3.0 A, b) 18 V, 4)a) 5.0 Ω , b) 15 V, 15 V, c) 3.0 A, 2.5 A, 0.50 A, 5)a) 4.8 A, b) 20. Ω , 6)a) 160 Ω , b) 0.25 A, 8.8 V, 25. V, 0.083 A. 7)a)



7)b)

