King Fahd University of Petroleum and Minerals

Electrical Engineering Department *EE 208: Electrical Systems*

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Home Work # 1

1. If **60 J** of work is done in **40 s** in supplying energy to an element whose terminal voltage is **30 V**, find the **current** through the element.

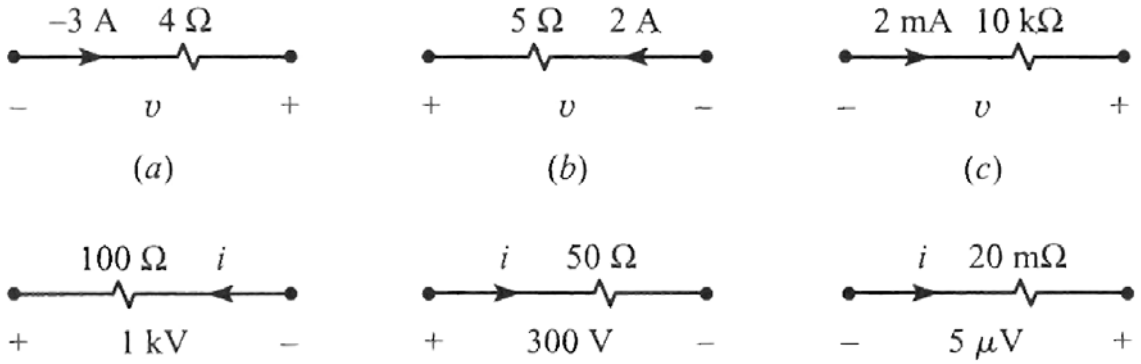
2. For how **long** must a **1200-W** toaster operate to use **6 kWh** of energy?

3. Find the **current** and the **power** absorbed in a resistor if the voltage is **12 V** and the conductance is **10 S**.

4. If the current in a wire is **6 A**, find the **number** of electrons that passes an arbitrary point in the wire in **25 s**.

5. Find the **total monthly cost** of energy consumption of a house having **four-1800W** Air Conditions**, 2 kW** refrigerator**, twelve 40 W** lamps and **1500W** Washing Machine. *Assume that the devices operate for a **24-hour** period every day. **(One kWh costs 10 Halalas**)*

6. For the following cases **find the unknown variable**.



7. For the following cases **find the unknown variable**.