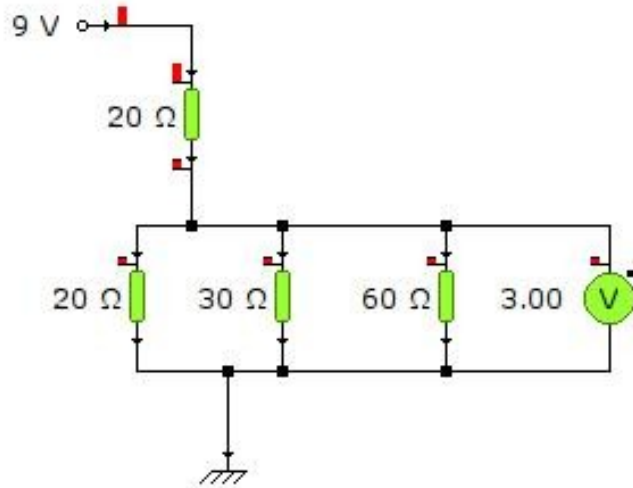


TECHNOLOGY TEST
3RD COURSE OF ESO
2ND QUARTER
ELECTRONICS

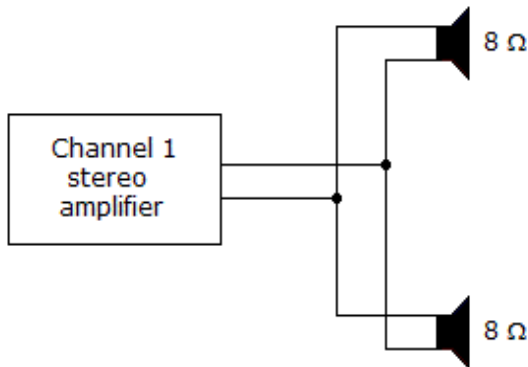
PROBLEMS (5 POINTS)

1. In the next circuit (2p)

- a. Equivalent resistor
- b. Total current
- c. Voltage across the first resistor
- d. Power



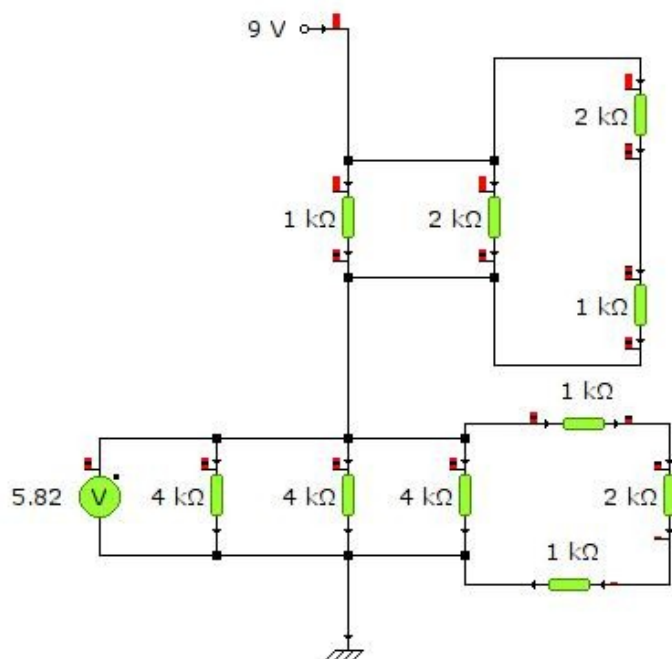
2. In this circuit, Channel 1 of the stereo amplifier outputs 12 V to the speakers (in parallel) (1p)



- a. How much total current is the amplifier providing to the speakers?
- b. How much total power is the amplifier delivering to the speakers?

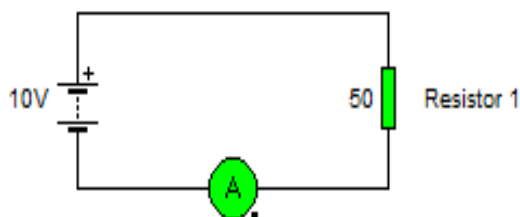
3. In the next circuit (2p)

- a. Equivalent resistor
- b. Total current
- c. Power
- d. Voltage drops in the first 1kΩ resistor.



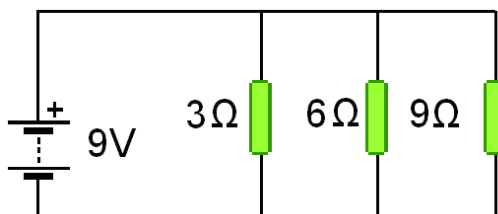
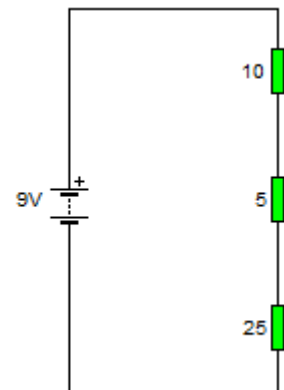
THEORY (0,5 p each right answer, two failed answer cancel a right answer)

- If the current in a circuit equals 0 A, it is likely that the
 A. voltage is too high B. resistance is too low
 C. circuit has a short D. circuit is open
- Current is considered as the movement of:
 A. nuclei B. protons C. electrons D. voltage
- What are the unit and symbol for current?
 A. Ampere, A B. Coulomb, I C. Ampere, Q D. Ohm, Ω
- A switch is a device that:
 A. short circuits complex circuits B. holds a fuse
 C. opens or completes a current path
- The current flowing in this circuit is:



- 0,5 A
- 0,4 A
- 0,3 A
- 0,2 A

- In the circuit on the right, more than half the voltage drops in the resistor of:
 A. 10 Ω B. 5 Ω C. 25 Ω D. 50 Ω
- And the equivalent resistor is:
 A. 2,9 Ω B. 40 Ω C. 7,9 Ω D. 49 Ω
- In the next circuit, the current is higher in the resistor of:



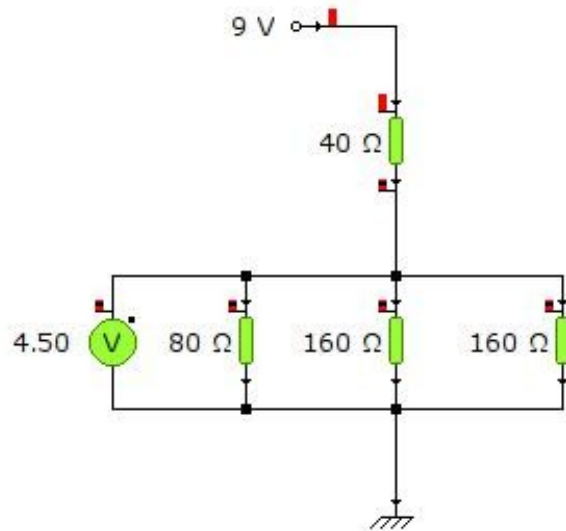
- in the first branch B. in the second branch C. in the third branch
- The formula to find I when the values of V and R are known is:
 A. $I = V \cdot R$ B. $V = I \cdot R$ C. $I = V/R$ D. $I = R/V$
 - An electric heater draws 3.5 A from a 110 V source. The resistance of the heating element is approximately
 A. 385 Ω B. 38.5 Ω C. 3.1 Ω D. 31 Ω

TECHNOLOGY TEST
3RD COURSE OF ESO
2ND QUARTER
ELECTRONICS

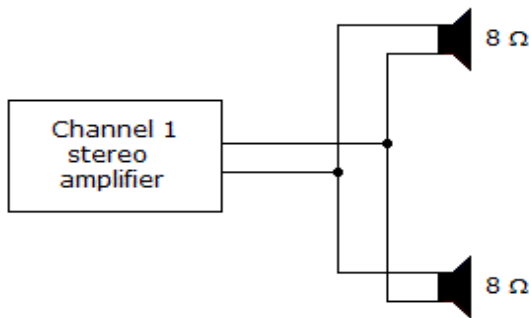
PROBLEMS (5 POINTS)

1. In the next circuit (2p)

- a. Equivalent resistor
- b. Total current
- c. Voltage across the first resistor
- d. Power



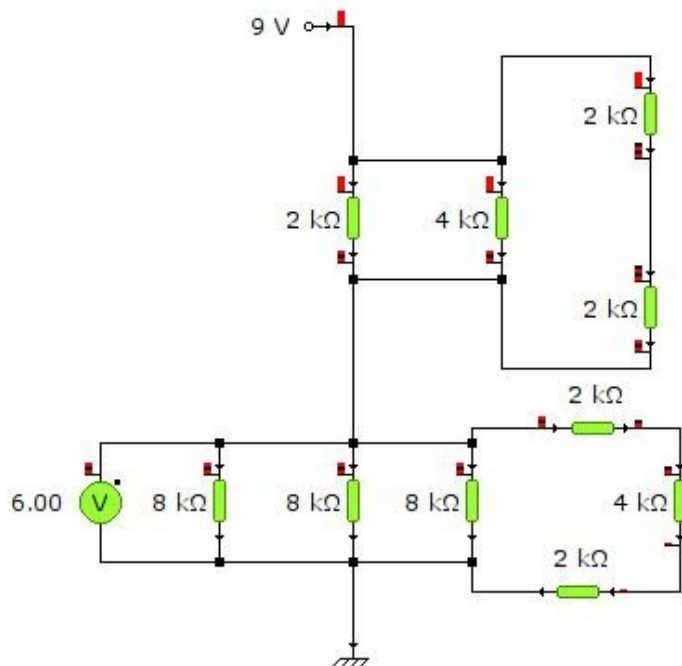
2. In this circuit, Channel 1 of the stereo amplifier outputs 12 V to the speakers (in parallel) (1p)



- a. How much total current is the amplifier providing to the speakers?
- b. How much total power is the amplifier delivering to the speakers?

3. In the next circuit (2p)

- a. Equivalent resistor
- b. Total current
- c. Power
- d. Voltage drops in the first 2kΩ resistor.



THEORY (0,5 p each right answer, two failed answer cancel a right answer)

- If the current in a circuit equals 0 A, it is likely that the
 - voltage is too high
 - resistance is too low
 - circuit has a short
 - circuit is open
- Current is considered as the movement of:
 - nucleii
 - protons
 - electrons
 - voltage
- What are the unit and symbol for current?
 - Ampere, A
 - Coulomb, I
 - Ampere, Q
 - Ohm, Ω
- A switch is a device that:
 - short circuits complex circuits
 - holds a fuse
 - opens or completes a current path
- The current flowing in this circuit is:



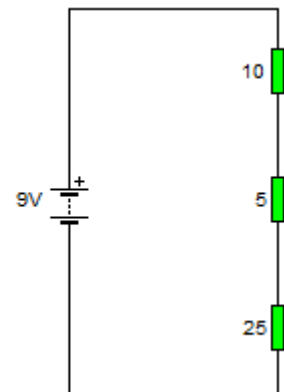
- 0,2 A
- 0,3 A
- 0,4 A
- 0,5 A

- In the circuit on the right, more than half the voltage drops in the resistor of:

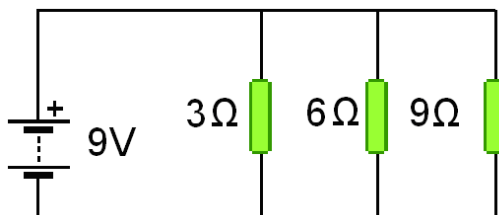
- 25 Ω
- 5 Ω
- 50 Ω
- 10 Ω

- And the equivalent resistor is:

- 2,9 Ω
- 49 Ω
- 7,9 Ω
- 40 Ω



- In the next circuit, the current is higher in the resistor of:



- in the first branch
- in the second branch
- in the third branch

- The formula to find I when the values of V and R are known is:

- $I = V \cdot R$
- $I = R/V$
- $I = V/R$
- $V = I \cdot R$

- An electric heater draws 3.5 A from a 110 V source. The resistance of the heating element is approximately

- 385 Ω
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