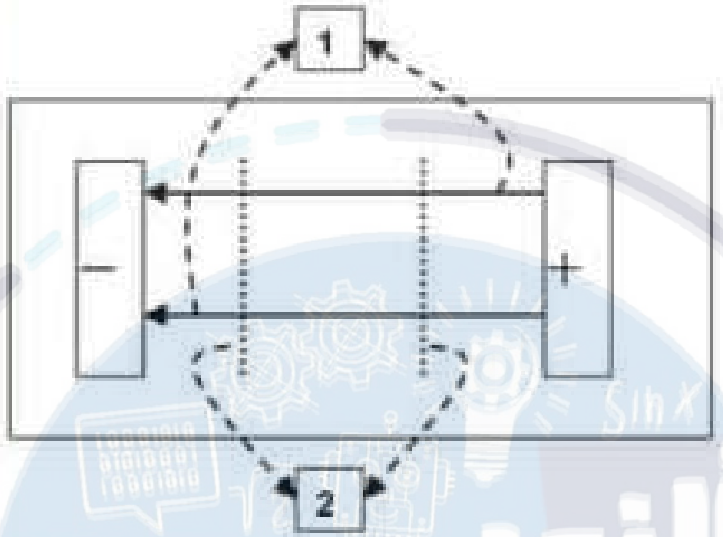
In the given figure, the lines labeled by 1 and 2 are,

respectively:



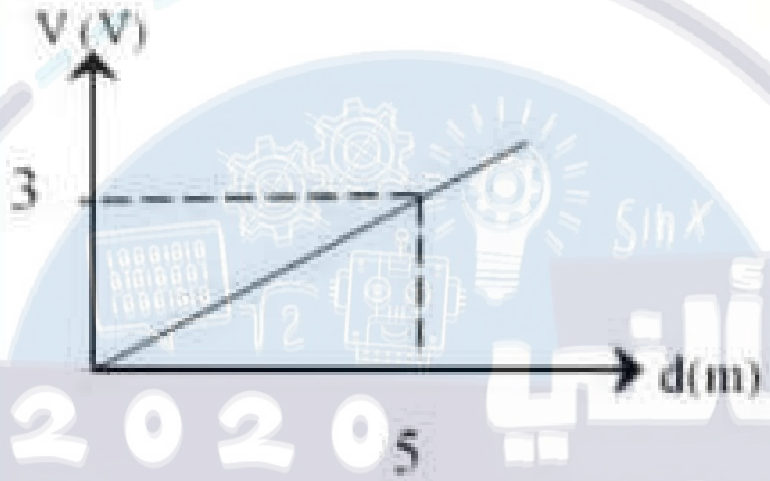
Select one:

- a. Electric field lines and equipotential lines respectively
- b. Electric Field lines
- c. Equipotential lines
- d. Equipotential lines and electric field lines respectively

The Equipotential lines in the **Electric Field Mapping** Experiment

- Connect points of the same potential
- Connect points of the same potential and perpendicular to electric field lines
- Are perpendicular to electric field lines
- Are always straight lines and parallel to each other

Depending on the graph, the value of electric field (in V/m) is:



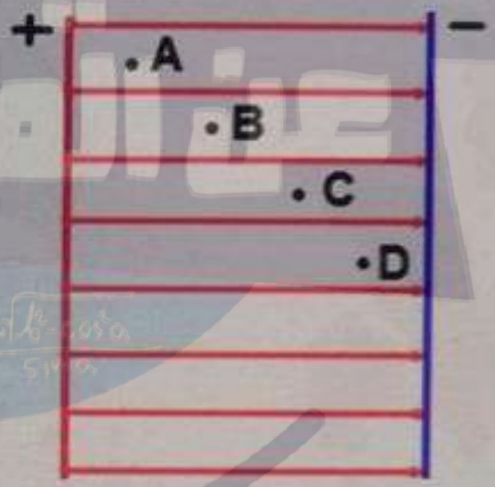
Select one:

- a. 1.67
- b. 0.6
- c. 3.0
- d. 15.0

The Electric Field Mapping Experiment:

An electric field is created by two parallel plates. Which of the following points corresponds to the higher electric potential?

a) A
b) B
c) C
d) D
e) The electric potential is the same at all points.

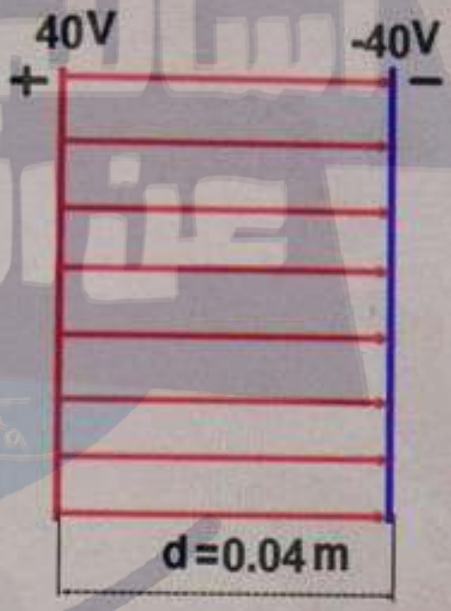


Select one:

The Electric Field Mapping Experiment:

A uniform electric field is created by two parallel plates separated by a distance of 0.04 m. What is the magnitude of the electric field established between the plates?

a) 20 V/m
b) 200 V/m
c) 2,000 V/m
d) 4,000 V/m
e) 0 V/m

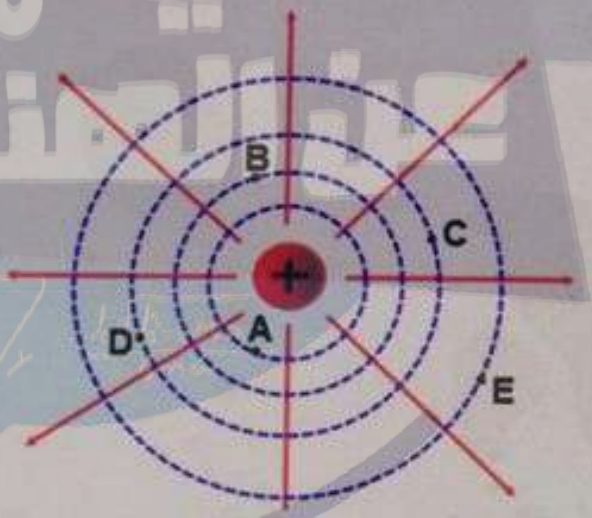


Select one:

The Electric Field Mapping Experiment:

An electric field due to a positive charge is represented by the diagram. Which of the following points has higher potential?

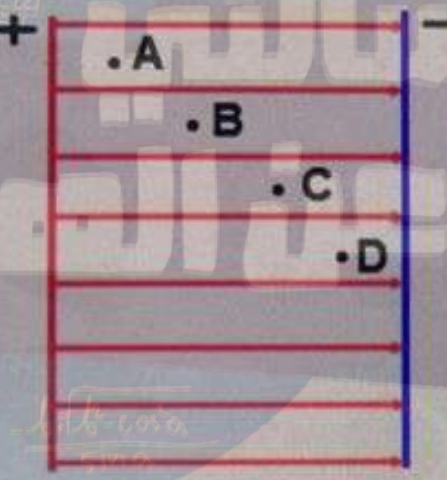
a) A
b) B
c) C
d) D
e) E



The Electric Field Mapping Experiment:

An electric field is created by two parallel plates. At which of the following points is the electric field the strongest?

a) A
b) B
c) C
d) D
e) The electric field is the
f) same at all points



The Electric Field Mapping Experiment:

An electric field due to a positive charge is represented by the diagram. At which of the following points is the electric field strongest in magnitude?

a) A
b) B
c) C
d) D
e) E

Select one:

In the Electric Field Mapping experiment, which of the following is done ?

- a. Measuring how the strength of an electrical field changes as the strength of two charges changes
- b. Measure the distance between two known electrical charges
- c. Mapping the field lines between two charged electrical conductors
- d. Measuring how the strength of an electric field influences the local magnetic field

In the Electric Field Mapping experiment, the Equipotential lines are

- a. Always Perpendicular to electric field lines
- b. Always Parallel with electric field lines
- c. Equipotential lines and electric field lines are the same thing
- d. Equipotential lines and electric fields lines can have any relations to each other

Next page

Time left 0:28:31

Question 1

Not yet answered

Marked out of 2.5

Flag question

In the Electric Field Mapping experiment, the potential difference between the anode and cathode is 30 Volt and the distance between them is 20 cm. You are told that the potential difference between two equipotential lines is 3 Volt. Then, the distance (in cm) between these two lines is:

- a. 5
- b. 2
- c. 3
- d. 6
- e. 4.5

Clear my choice

Next page

Time left 0:21:14

Question **4**

Not yet answered

Marked out of 2.5

Flag question

The sliding contact is at the position labeled P along the rheostat in the Electric Field Mapping experiment. The galvanometer reads zero when the tip of the pointer is placed vertically in the solution between the anode and cathode at the point labeled P_1. If the pointer next is placed at the point P_2 in the solution and the galvanometer's pointer deflects, this means that:

- a. P_1 and P_2 are not at the same potential and the potential difference between P and P_1 is zero.
- b. There is an electric field pointing from P_2 to P_1.
- c. The potential difference between the anode and P_1 is zero.
- d. The potential difference between P_1 and P_2 is zero.
- e. There is a current in the solution from P_1 to P_2.

Clear my choice

Time left 0:26:16

Question 6

Not yet answered

Marked out of 4.00

Flag question

In the Electric Field Mapping experiment, the anode is placed along the y-axis with its center at x = 0 cm, parallel to the cathode with its center at x = 20 cm, and the potential difference between them is 25 V. The cathode and anode each have a length of 20 cm. Then the potential difference (in V) as you go from the point with coordinates (6 cm, 5 cm) to the point with coordinates (10 cm, -5 cm) is:

- a. 12.5
- b. -10
- c. 5
- d. -5
- e. -12.5

Clear my choice

Next page

The direction of an induced current can be determined by:

Select one:

- a. Coulomb's Law
- b. Ohm's Law
- c. Lenz's Law
- d. Faraday's Law

Clear my choice

In the electromagnetic Induction Experiment, the EMF is short for

- Electronic magnetic force
- Electromated force
- Electromagnetic force
- Electrical Resistance
- Electromotive force

Clear my choice

Time left 0:31:40

Question 5

Not yet answered

Marked out of 4.00

Flag question

The magnitude of the induced current in a stationary conducting (secondary) loop:

- a. Depends only on the magnitude of the flux cutting the loop.
- b. is zero when the magnetic field at the position of the loop is zero.
- c. Depends on the rate of change of the magnetic flux cutting the loop and the resistance of the loop.
- d. Depends only on the magnitude of the magnetic field at the position of the loop.
- e. Depends on the area of the primary loop and the rate of change of magnetic flux cutting the secondary loop.

Clear my choice

Next page

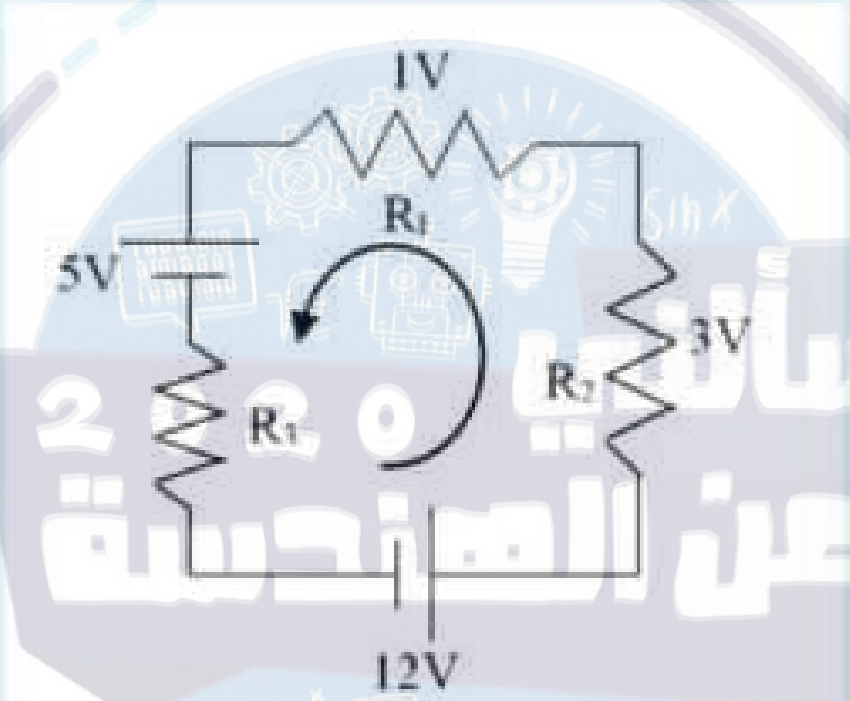
Kirchhoff's loop rule is a statement of conservation of:

Select one:

- a. charge
- b. momentum
- c. energy
- d. both a and c

Clear my choice

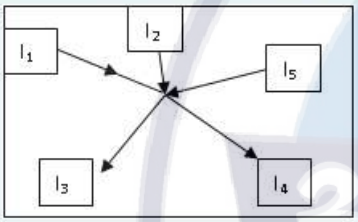
According to Kirchhoff's rules, the reading of a voltmeter (in V) across R_3 in the circuit shown to the right is:



Select one:

- a. 2
- b. 4
- c. 3
- d. 1

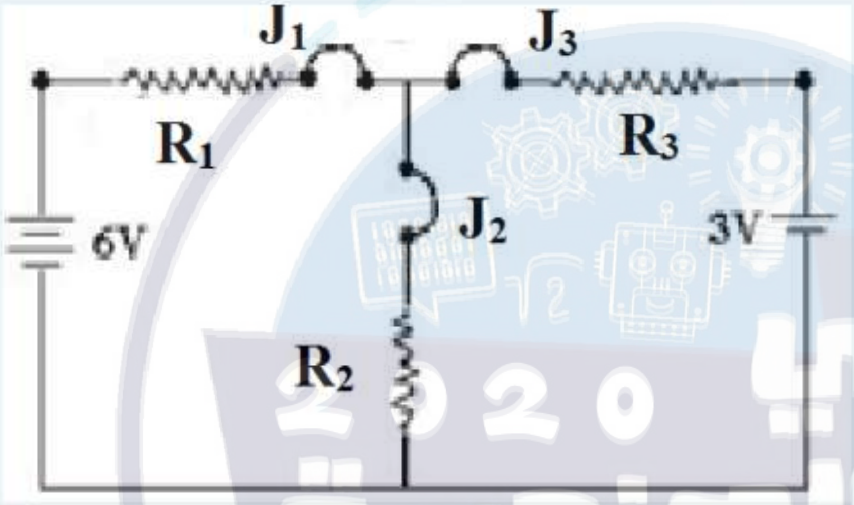
If a section of an electric circuit is as shown, then applying Kirchhoff's first law gives:



- $I_1 + I_3 + I_5 = I_2 + I_4$
- $I_1 + I_2 + I_4 + I_3 = I_5$
- $I_1 + I_3 + I_4 = I_2 + I_5$
- $I_1 + I_2 + I_5 = I_3 + I_4$
- $I_1 = I_2 + I_3 + I_4 + I_5$

Clear my choice

In the circuit shown, to measure the current through R_2



- J_1 is removed, J_2 is plugged in, and J_3 is replaced by an ammeter.
- J_1 is plugged in, J_3 is removed and J_2 is replaced by an ammeter.
- J_1 and J_2 are plugged in and J_3 is replaced by an ammeter.
- J_1 and J_3 are removed and J_2 is replaced by an ammeter.
- [x] J_1 and J_3 are plugged in and J_2 is replaced by an ammeter.

Question 1

Not yet answered

Marked out of 4.00

Flag question

Time left 0:45:01

In the circuit below, $V_1 = 10$ V, $V_2 = 4$ V, and the potential drop across R_1 is measured to be 4 V. The potential difference (in V) as you go from point c to point a in the circuit is:

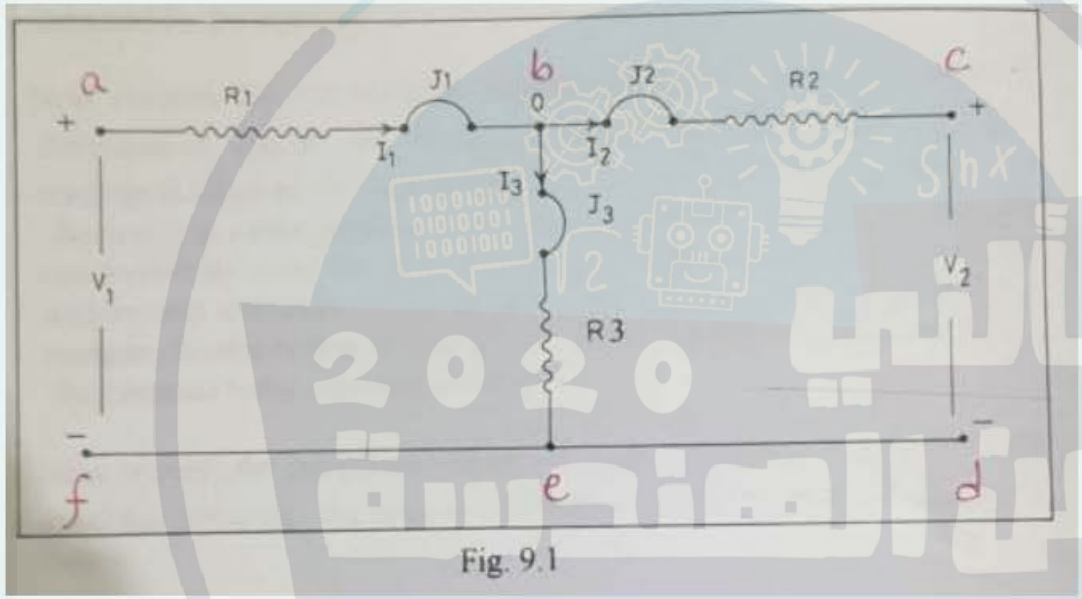


Fig. 9.1

- a. 14
- b. -6
- c. 4
- d. -4
- e. 6

Clear my choice

Time left 0:41:57

Question 2

Not yet answered

Marked out of 4.00

Flag question

In Kirchoff's Rules experiment, suppose you removed jumper J_1 in order to measure the current in resistance R_1. During the time when J_1 is disconnected and the ammeter is not connected yet, which of the following is true?

- a. All the currents I_1, I_2, and I_3 have the same values as before disconnecting J_1.
- b. The potential drops across resistors R_2 and R_3 do not change as a result of disconnecting J_1.
- c. There is no current in R_1 and the currents I_2 and I_3 are different from their values before disconnecting J_1.
- d. The currents I_2 and I_3 are not affected by disconnecting J_1.
- e. I_1 has the same value as before disconnecting J_1 but I_2 and I_3 are different from their values before disconnecting J_1.

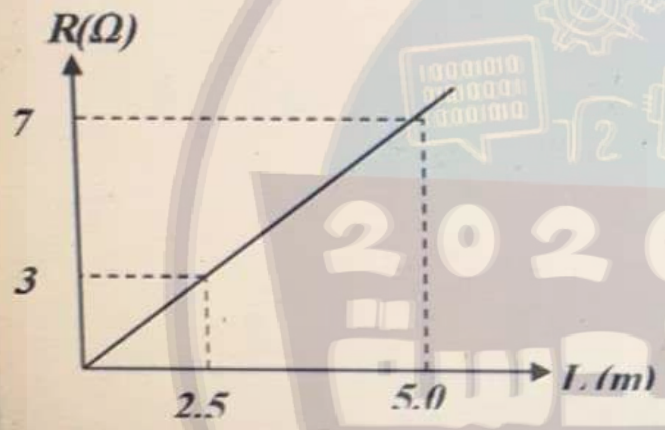
Clear my choice

Next page

Let the cylindrical wire has a resistance R and resistivity ρ. If its length and diameter are BOTH cut in half, what will be its resistance?

a) $4R$
b) $2R$
c) R
d) $R/2$
e) $R/4$

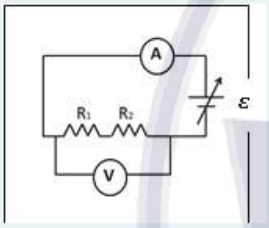
The graph below represents the relationship between the resistance and the length of a wire of a cross-section area $A = 1.22 \times 10^{-7}\ m^2$. Depending on the graph, the resistivity (in Ω.m) of the wire's material is:



Select one:

- a. 2.85×10^{-7}
- b. 1.95×10^{-7}
- c. 2.22×10^{-7}
- d. 2.08×10^{-7}

The slope of ***V versus I*** is **9 V/A.** Knowing that $R_2 = 5.0\ \Omega$, the value of R_1 (in Ω)is:

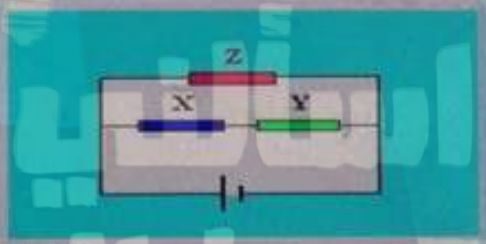


- ○ 11.25
- ○ 10
- ☒ 4
- ○ 5

Clear my choice

Ohm's Law

Given the simple electrical circuit shown below. If the current in all three resistors is equal, which of the following statements must be true?



a) X and Y added together have the same resistance as Z.
b) X, Y, and Z all have equal resistance.
c) X and Y have equal resistance.
d) X and Y each have more resistance than Z.

Select one:

- a. a

Ohm's Law Experiment

Ohm's law is not applicable to:

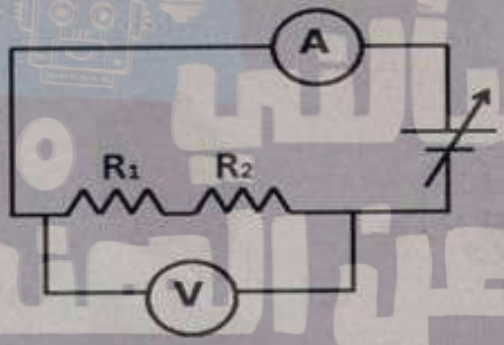
a) DC circuits
b) high currents
c) small resistors
d) semi-conductors
e) wire resistors.

Select one:

Ohm's Law Experiment

The slope of ***V versus I*** is **31 V/A** . Knowing that $R_2 = 10.0\ \Omega$, the value of R_1 (in Ω)is:

a) 5.0
b) 21.0
c) 10.0
d) 4.0
e) 13.3



Select one:

- a. a
- b. b

In Ohm's Law experiment, In order to measure the resistivity (at a given temperature) of an Ohmic conductor of uniform cross section, we need to know (at that temperature) its

- a. Density, length, and resistance
- b. Cross-sectional area and length
- c. Cross-sectional area, length, and resistance
- d. Length and resistance

Clear my choice

In Ohms Law Experiment: Both a Voltmeter (voltage sensor) and an Ammeter (current sensor) are used. How these two devices are connected to our circuit is important. ?Which statement is correct

a. The voltmeter must be Connected in Parallel with the resistor while the Ammeter must be Connected in Series with the resistor

b. Both devices must be Connected in Parallel with the resistor

c. The voltmeter must be Connected in Series with the resistor while the Ammeter must be Connected in Parallel with the resistor

d. Both devices must be Connected in Series with the resistor

أخلِ اختياري

Time left 0:24:39

Question 3

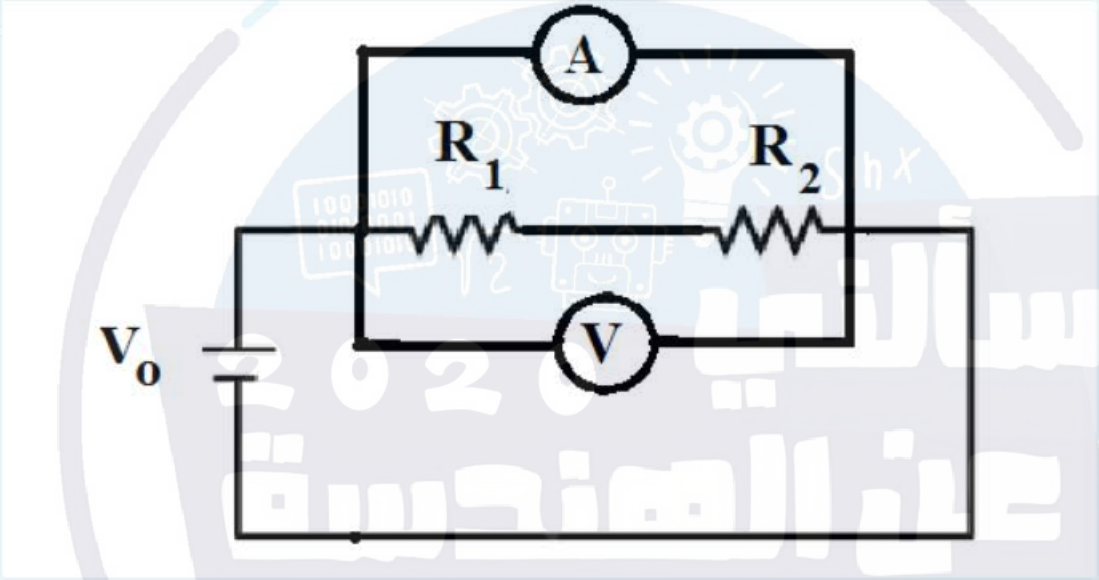
Not yet answered

Marked out of 2.5

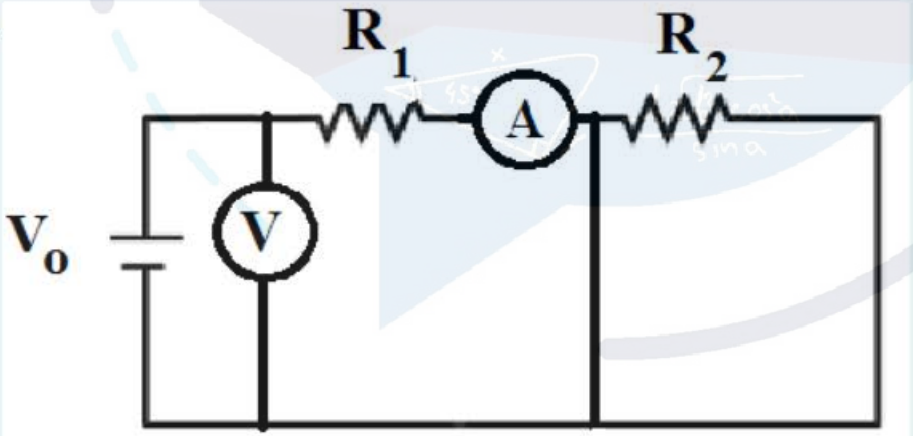
Flag question

You are given two Ohmic resistors R_1 and R_2 and asked to use Ohm's law to verify that their equivalent resistance when they are connected in series is their sum. Which circuit do you set up?

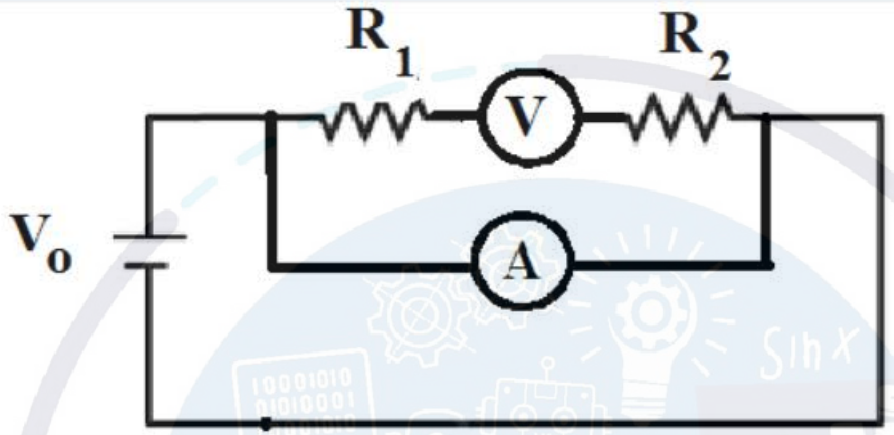
a.



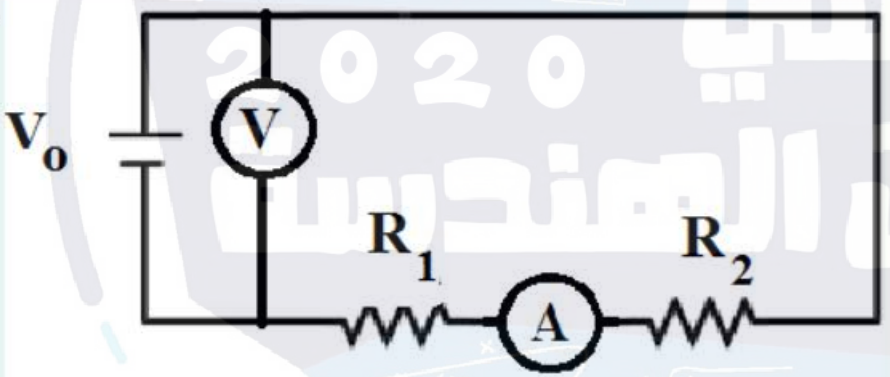
b.



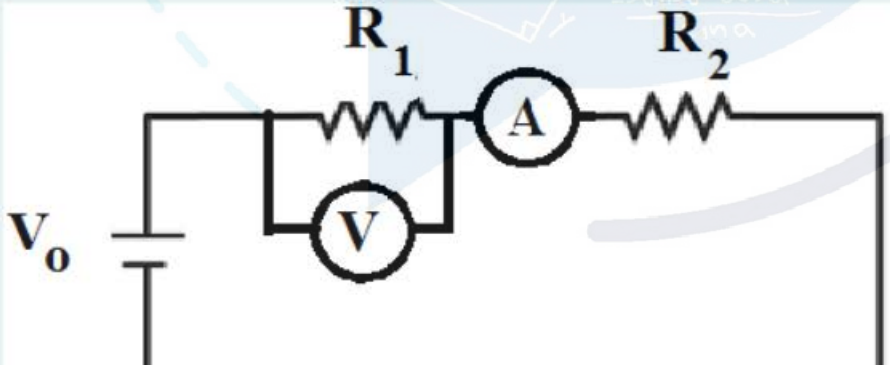
c.



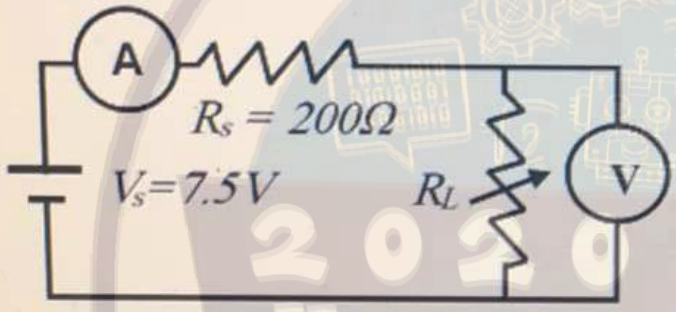
d.



e.



For the given circuit, the maximum power transferred to the load resistance (in mW) is:



Select one:

- a. 36.1
- b. 16.9
- c. 26.4
- d. 70.3

A battery with emf of 20 volts and internal resistance of 5.0 Ω is connected in series with a load resistance of 100 Ω. The power (in Watts) dissipated in the load resistance is:

- 1.0×10^{2}
- 3.8
- 2.0×10^{3}
- 3.6

Clear my choice

Next page

In the Power Transfer experiment, A load resistance (R) is connected across the terminals of a 3V power supply of a 10 Ohms internal resistance. What is the proper magnitude of R (in Ohms) such that the power delivered to it is maximum?

- a. 100
- b. 30
- c. 10
- d. 3

In the Power Transfer experiment, A load resistance R = 5 Ohms is connected across the terminals of a 3V power supply of a 10 Ohms internal resistance. What is the ratio of power delivered to R with respect to the power in the internal resistance of the power supply?

- a. 0.2
- b. 1
- c. 0.5
- d. 0.1

Clear my choice

Suppose a power supply has an emf of 60 Volt and an internal resistance of 20 Ohm. The maximum power (in Watt) that can be dissipated in a series resistance connected with it is:

- a. 9
- b. 90
- c. 22.5
- d. 45
- e. 180

Clear my choice

Time left 0:04:43

Question 8

Not yet answered

Marked out of 2.5

Flag question

Suppose a power supply has an emf of 20 Volt and an internal resistance of 10 Ohm. The maximum power (in Watt) that can be dissipated in a series resistance connected with it is:

- a. 10
- b. 20
- c. 25
- d. 40
- e. 5

Clear my choice

Finish attempt ...

Time left 0:05:41

Question 11

Not yet answered

Marked out of 4.00

Flag question

In the Power Transfer experiment, which of the following is true during the experiment?

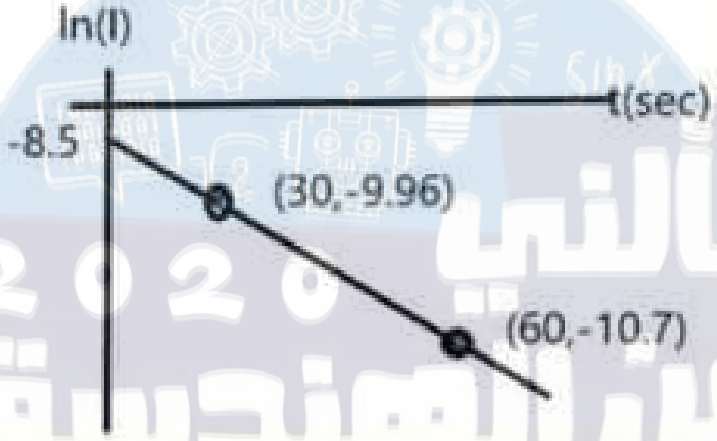
- a. The power dissipated by the load resistance is always greater than the power dissipated by the source.
- b. We keep the potential difference across the load resistance constant.
- c. The power dissipated by the source is constant.
- d. The current is constant.
- e. We vary the load resistance but keep the emf of the power supply constant.

Clear my choice

Next page

The figure below represents the charging process for a capacitor of value C connected to a power supply (V = 5Volt) across resistance R.

The approximate values of R and C respectively are



Select one:

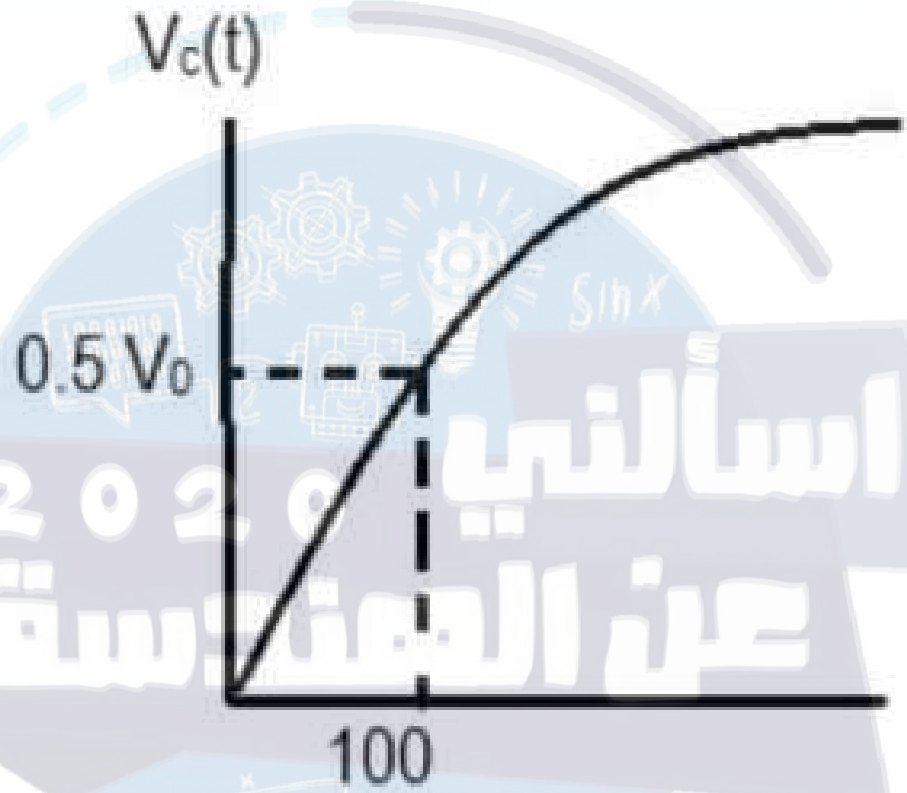
a.
50KΩ , 800μF

b.
20KΩ , 16μF

c.
25KΩ , 1600μF

d.
10KΩ , 80μF

Depending on the graph of V_C versus t for the charging process in *RC* circuit, the time constant τ (in second) is:



Select one:

- a. 145
- b. 187.55
- c. 158.7
- d. 173.12

In the **RC-Time Constant Experiment,** if the capacitance is 80 μF and the resistance is 2.0 kΩ, then the time constant (in ms) of the circuit is:

- 160
- 40
- 52
- 18
- 14

The time constant τ of *RC* circuit depends on:

Select one:

- a. resistance
- b. current
- c. inductance
- d. both a and c

Time left 0:16:56

In a RC circuit with power supply with an emf of 20 V, capacitance 3 μF, and resistance 1000 Ω, the slope (in units of C/s) of the curve of Q (the charge on the capacitor) vs t (the time elapsed after starting the charging) at t = 0 s is:

- a. 0.2
- b. -0.2
- c. 0
- d. 0.02
- e. -0.02

Next page

Time left 0:10:46

In a RC circuit starting from zero capacitor charge, during charging:

a. The potential across the capacitor is decreasing and its charge is increasing.

b. The magnitude of the potential difference across the capacitor is increasing but is decreasing across the resistor.

c. The current in the circuit is decreasing but the potential difference across the capacitor is constant.

d. The time it takes to charge the capacitor to half its maximum charge is half the time needed to fully charge the capacitor.

e. The current decreases with time linearly.

Next page

Time left 0:07:25

Question 10

Not yet answered

Marked out of 4.00

Flag question

In a RC circuit with power supply with an emf of 10 V, capacitance 5 μF, and resistance 1000 Ω, the slope (in units of C/s) of the curve of Q (the charge on the capacitor) vs t (the time elapsed after starting the charging) at t = 0 s is:

- a. 0
- b. -0.1
- c. -0.01
- d. 0.1
- e. 0.01

Clear my choice

Next page

Time left 0:01:16

Question 13

Not yet answered

Marked out of 4.00

Flag question

In a RC circuit starting from zero capacitor charge, during charging:

- a. The time it takes to charge the capacitor to half its maximum charge is half the time needed to fully charge the capacitor.
- b. The potential difference across the capacitor is decreasing and its charge is increasing with time.
- c. The current in the resistor decreases with time linearly.
- d. The current in the resistor is decreasing but the potential difference across the capacitor is constant.
- e. The the current in the resistor is decreasing and the magnitude of the potential difference across the capacitor is increasing.

Clear my choice

Finish attempt ...

A student performed the experiment of the specific charge of copper ions and found that $k = 3.03 \times 10^6$ C/Kg In order to accumulate 1 gram of copper ions in the cathode, the student adjusted the rheostat to give a current of 5A. For how long did the current flow in the circuit (in minute)?

Select one:

- a. 5
- b. 10
- c. 50
- d. 20.5

Clear my choice

If the specific charge (K) of copper ions in this experiment was 1.50×10^{6} C/kg and the current was 0.50 A, then the time needed (in seconds) to change the cathode mass by 0.50 gram is:

- ○ 1.0×10^{3}
- ○ 2.61×10^{6}
- ○ 1.6×10^{-19}
- ○ 3.03×10^{3}
- ☒ 1.50×10^{3}

Clear my choice

The Specific Charge of Copper Ions Experiment:

The rate of deposition of copper (mass deposited per unit time) on the cathode depends on:

a) The surface area of the anode.
b) The surface area of the cathode
c) The current flowing in the cell.
d) The spacing of the electrodes in the cell
e) None of the above

Select one:

- a. a
- b. b
- c. c

The Specific Charge of Copper Ions Experiment

If the specific charge (K) of copper ions in this experiment was 1.5×10^6 C/kg and the current was 0.50 A, then the time needed (in seconds) to change the cathode mass by 0.50 gram is:

a) 1.0×10^3
b) 3.03×10^3
c) 1.50×10^3
d) 1.6×10^{-19}
e) 2.61×10^6

Select one:

- a. a
- b. b
- c. c

Consider two metals with specific charges k_1 and k_2, respectively. The ions of the first metal have 4/3 the mass of the ions of the second metal and 3/2 their charge. Which of the following is true?

- a. $k_2 = 2\,k_1$
- b. $k_2 = 4/3\,k_1$
- c. $k_2 = (9/8)\,k_1$
- d. $k_2 = (8/9)\,k_1$
- e. $k_2 = (1/2)\,k_1$

Clear my choice

Time left 0:27:16

Question 2

Not yet answered

Marked out of 2.5

Flag question

One metal has a certain specific charge given by k_1. The ions of a second metal have twice the charge of the ions of the first metal and 3/2 the mass of the first metal. Which of the following is true, where k_2 is the specific charge of the second metal?

- a. $k_1 = (4/3)\ k_2$
- b. $k_2 = (4/3)\ k_1$
- c. $k_1 = 3\ k_2$
- d. $k_2 = (3/4)\ k_1$
- e. $k_2 = 3\ k_1$

Clear my choice

Next page

In the **Magnetic Field of a Current e**xperiment, the magnetic field of the coil in the Physics Lab at UJ is kept:

- Perpendicular to the Earth's magnetic field.
- Vertical.
- Constant during the experiment.
- Zero.
- Parallel to the Earth's magnetic field.

Next page

In the Magnetic Field experiment, let the magnetic fields of Earth and the coil be H_E and H_C, respectively. The compass and galvanometer are initially set up before turning the power supply on. After turning the power supply on, the needle of the compass deflects by an angle θ. Which of the following is true when performing the different steps of the experiment?

- a. The relation between the current in the coil and the total magnetic field is linear.
- b. The angle θ and H_E are varied but H_C is constant.
- c. H_E is constant but H_C and θ vary.
- d. The angle θ and the current in the coil are varied, but H_C and H_E are constant.
- e. H_E and H_C are constant but θ varies.

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Question 3

Not yet answered

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Flag question

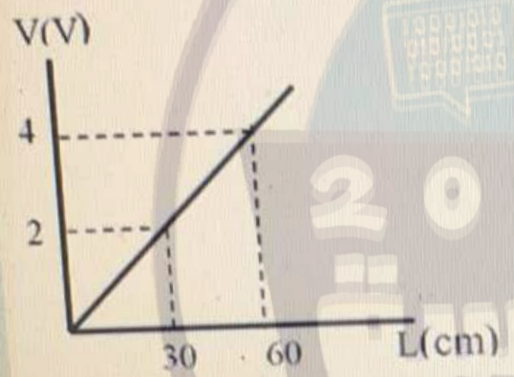
In the Magnetic Field of a Current experiment, when we decrease the current in the coil, which of the following is true?

- a. The direction of the magnetic field of Earth does not change but its magnitude decreases.
- b. The magnitude of the total magnetic field at the center of the coil increases but its direction does not change.
- c. The magnitude and direction of the coil's magnetic field at the center change.
- d. Both magnitudes of the magnetic fields of the coil and Earth decrease.
- e. Both the total magnetic field at the center of the tangent galvanometer and the angle of deflection of the compass decrease.

Clear my choice

Next page

According to the calibration curve of a potentiometer as shown, the voltage (in V) at the position 52cm is:

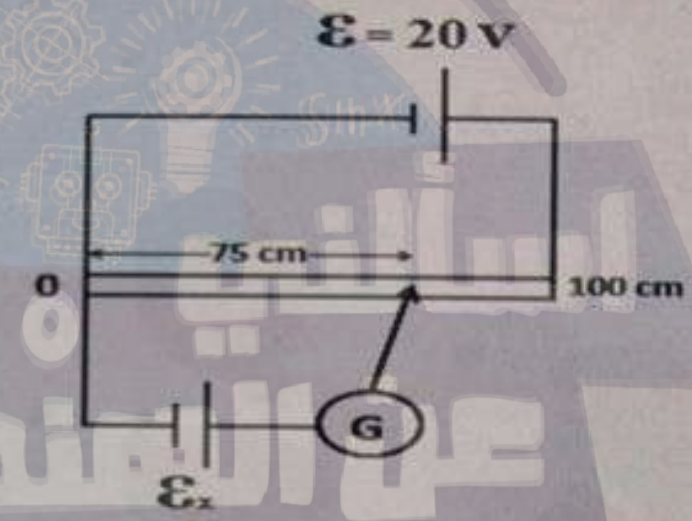


Select one:

- a. 3.20
- b. 3.07
- c. 3.47

In the **Potentiometer Experiment**
What is $\mathcal{E}_x$ when the galvanometer (*G*) reads *Zero*?

a) 2.5
b) 3.25
c) 7.5
d) 15
e) 75



Select one:

- a. a
- b. b
- c. c
- d. d

In The Potentiometer Experiment:

In order to achieve high accuracy, the slide wire of a potentiometer should be:

a) As short as possible
b) Neither too small not too large
c) Very thick
d) As long as possible
e) None of the above

In The Potentiometer Experiment:

Let the cylindrical wire has a resistance R and resistivity ρ. If its length and diameter are BOTH cut in half, what will be its resistance?

a) $4R$
b) $2R$
c) R
d) $R/2$
e) $R/4$

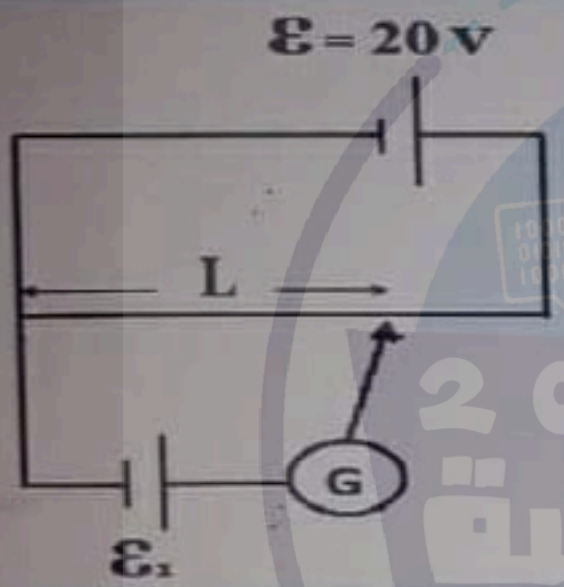
In the Potentionmeter experiment, if the balance point in the galvanometer was obtained at point C, where AC = 35 cm, AB (the wire Length on the meter stick) = 100 cm, and the power supply of the circuit is rated at 9 Volts, the value of Ex (in Volts) is:

- a. 3.15
- b. Zero
- c. 5.85
- d. 9

In the Potentiometer experiment, which of the following must be true about the wire on the meter stick used in the experiment?

- a. It must have a uniform cross sectional area
- b. It must be made of copper
- c. All other answers are Correct
- d. Its length must be 100 cm

Consider the Potentiometer circuit below. The balance point is a distance L from the left end of the meter wire. The position of the balance point along the wire depends on:



- a. Only the total length of the wire.
- b. Only the known emf of the power supply.
- c. The unknown emf and the total length of the wire.
- d. The emf of the power supply, the unknown emf, the resistivity of the wire, and the total length of the wire.
- e. Both the unknown emf and the known emf of the power supply.

Clear my choice

Time left 0:15:16

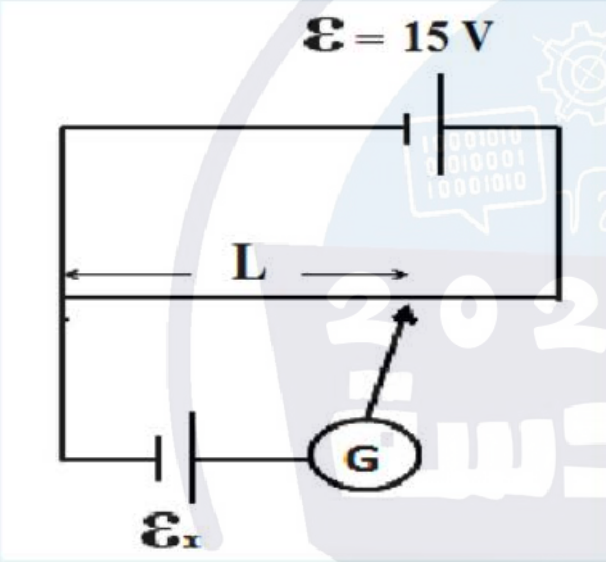
Question 5

Not yet answered

Marked out of 2.5

Flag question

The figure below is the Potentiometer circuit, showing the balance point at a distance L from the left end of the meter wire. The position of the balance point along the wire depends on:



- a. The known emf of the power supply and nothing else.
- b. The unknown emf, the emf of the power supply, the total length of the wire, and the resistivity of the wire.
- c. Both the emf of the power supply and the unknown emf.
- d. The total length of the wire and nothing else.
- e. The total length of the wire and the unknown emf.

Clear my choice

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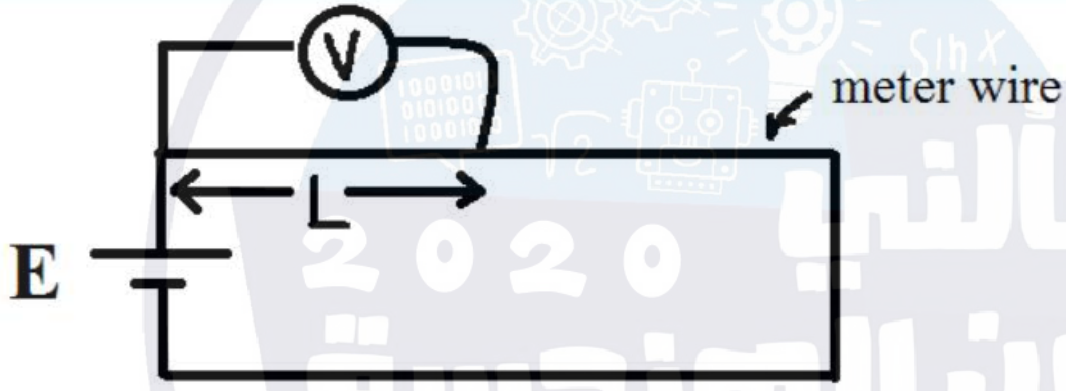
Question 6

Not yet answered

Marked out of 2.5

Flag question

In the Potentiometer experiment, let the known emf of the power supply be E = 20 volts. The slope of the graph V vs L (where L is the length in cm of the wire segment shown in the figure, and V is the potential difference measured by the voltmeter between the ends of the wire segment of length L) is:



- a. 0.2 V/cm
- b. 20 V/cm
- c. 0.1 L V/cm
- d. 10 L V/cm
- e. 20 cm/V

Clear my choice

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Question **4**

Not yet answered

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Flag question

During the Potentiometer experiment, which of the following is true when we find the balance point?

- a. The potential difference across the wire is the same as during calibration.
- b. The unknown emf is equal to the potential difference between the two ends of the wire.
- c. The potential difference between the beginning and end of the wire is the same as the unknown emf.
- d. The potential difference between the beginning of the wire and the balance point is zero.
- e. The potential difference between the end of the wire and the balance point is zero.

Clear my choice

Next page

Wheatstone Bridge Experiment:

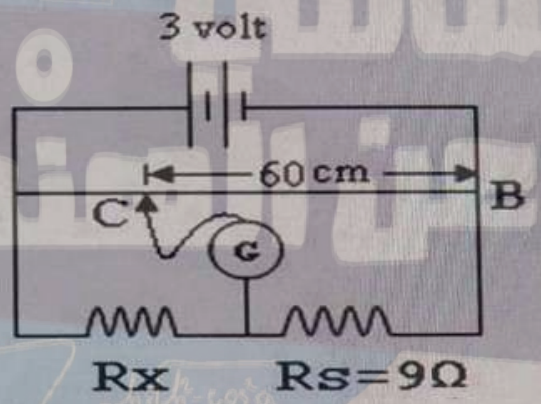
Wheatstone bridge consists of:

a) 4 resistive arms
b) 2 resistive arms
c) 6 resistive arms
d) 8 resistive arms
e) No resistive arms needed

Wheatstone Bridge Experiment:

In the circuit shown if the wire AB has a length of one meter, the galvanometer G reads zero at point C. along the wire, the value of unknown resistor Rx (ohm) is:

a) 6
b) 4
c) 1.5
d) 2
e) None.



Select one:

- a. a

Wheatstone Bridge Experiment:

A galvanometer is used as a:

a) current source
b) voltage source
c) null detector
d) input impedance
e) None of the above

In the Wheatstone Bridge Experiment, when the galvanometer (G) reads zero at point the Balance point C, where L1 is 20 cm and the length of the wire of the bridge is 100 cm. Knowing that Rs = 15 W, then Rx (in Ohms) is

- a. 7.5
- b. 6
- c. 35
- d. 60

In the Wheatstone bridge experiment, the balance point is obtained when

- a. The potential difference across the galvanometer is zero
- b. The potential difference across the power supply is zero
- c. The potential difference across the unknown resistance is zero
- d. The current through the unknown resistance is zero

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A non-Ohmic resistance R_1 is connected in series with an Ohmic resistance R_2 between points A and B in a conducting circuit. The current in R2 is I_2. Then the potential difference between A and B:

- a. Depends non-linearly on the current in R_1.
- b. is non-linearly related to the current in R_2.
- c. is equal to $I_2 (R_1+R_2)$ for any value of I_2.
- d. Depends linearly on the current in the equivalent resistance of R_1 and R_2 between A and B.
- e. Depends on the current in R_1 non-linearly and linearly on I_2 .

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Question 7

Not yet answered

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Flag question

An unknown resistance R_x and a known resistance R_s are connected in the Wheatstone Bridge, using a power supply with a certain emf and a wire of length 1.00 m, and the lengths L_1 and L_2 were determined. Using the same R_x in the circuit, which of the following would change the position of the balance point along the wire?

- a. Using a wire with a different thickness.
- b. Reversing the polarity of the power supply.
- c. Changing the length of the wire or using a power supply with a different emf.
- d. Using a different R_s or a changing the length of the wire.
- e. Using a wire made from a different Ohmic material.

Clear my choice

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Question 8

Not yet answered

Marked out of 4.00

Flag question

In the Wheatstone Bridge experiment, suppose we found the balance point for a given R_s and the ratio L2/L1 is found. When the known resistance is doubled and the balance point is found again, then the new L2/L1 value:

- a. is half the original value.
- b. stays the same.
- c. is twice the original value.
- d. cannot be known without measurement.
- e. Not enough information is provided.

Clear my choice

Next page

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Question 9

Not yet answered

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Flag question

If two resistors R_1 and R_2 are connected in series between points A and B in a conducting circuit, and you're told R_1 is Ohmic but R_2 is not. The current in R_1 is I_1. The potential difference between A and B:

- a. Depends linearly on the current in R_2.
- b. is linearly related to the current in R_1.
- c. is equal to $I_1 (R_1+R_2)$ for any value of R_1 or R_2.
- d. Depends linearly on the current in the equivalent resistance of R_1 and R_2 between A and B.
- e. Depends on the current in R_2 non-linearly and linearly on I_1 .

Clear my choice

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Question 12

Not yet answered

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Flag question

During the Wheatstone Bridge experiment, which of the following is true?

- a. We vary both the known and unknown resistances.
- b. We vary the known resistance and as a result the total current in the circuit changes.
- c. We assume the currents in the wire and the unknown resistance are the same.
- d. It is important to keep the current in the wire constant.
- e. We vary the unknown resistance and as a result the current in the unknown resistance changes.

Clear my choice

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