



# The New English Private School (NEPS)

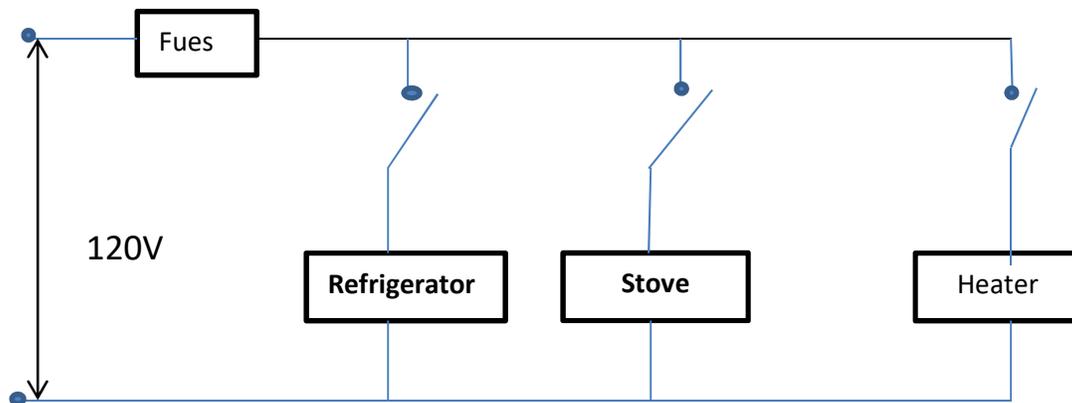
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www. NEPSschool.edu.et P.O.Box 18609 Addis Ababa Ethiopia

Name \_\_\_\_\_ Date: March 23, 2020 Subject: physics  
Quarter: 3 Revision work sheet Grade: 10 Section \_\_\_\_\_ Teacher's Name: Mr Asfaw

## Choose the best answer and circle the letter of your choice

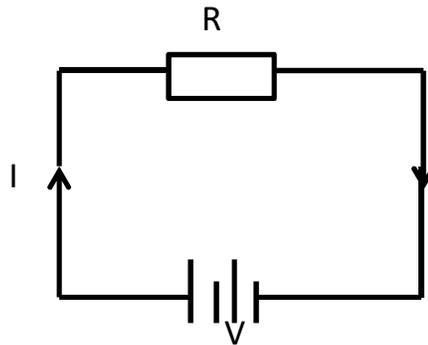
- Which of the following statements is current about resistivity and conductivity?
  - They are dimensionless.
  - They have the same SI unit.
  - One is the reciprocal of the other.
  - They have direct relationship.
- A voltmeter should be connected in parallel across a resistor in a circuit because
  - its resistance is very small.
  - it requires high current
  - its resistance is very high.
  - It measures current.
- The terminal potential difference of a battery is the maximum when
  - The e.m.f of the battery is the minimum.
  - the battery is being discharged through a wire.
  - there is a steady current flowing through the battery.
  - there is no current flowing through the battery.
- The potential difference between the terminals of a battery when the battery is isolated electrically is called
  - electromotive force.
  - terminal voltage.
  - electric force.
  - electric field.

5. A dry cell's voltage is labeled to be 1.5V. Which of the following statement is correct?
- The electromotive force (emf) of cell is equal to 1.5V.
  - The terminal voltage of the cell is equal to 1.5 V for closed circuit.
  - The emf of the dry cell is less than 1.5V.
  - The terminal voltage of the cell is greater than 1.5V.
6. Ethiopian Electric Power Corporation calculates the first 50 KWh consumption at the minimum rate. In this quantity the unit KWh refers to
- power.
  - energy.
  - charge.
  - current.
7. A 360 W refrigerator, a 1200 W stove, a 720 W heater and a 15 A fuse are connected to 120 V main line as shown in the figure.



- Under what condition will the fuse melt?
- When the refrigerator and the stove are switched on.
  - When the refrigerator and the heater are switched on.
  - When any of the devices is switched on.
  - When the heater and the stove are switched on.
8. The two ends of a  $4\Omega$  resistor are connected to a 16V battery. What is the total power delivered by the battery to circuit?
9. One kilo-watt-hour (1 kWh) is the same as
- $3.6 \times 10^3\text{J}$
  - $3.6 \times 10^6\text{J}$
  - 1.0J
  - 3.6

10. A resistor of resistance  $R$  is connected to a battery as shown in the figure below.



If the potential difference and the current are  $V$  and  $I$  respectively, what is the electrical power  $P$  delivered to the circuit?

A.  $P = I \times V$

C.  $P = (I \times V)/R$

B.  $P = I \times V^2$

D.  $P = I^2/R$

11. A metal bar magnet has a magnetic field in the region of space around it. The magnetic field is due to

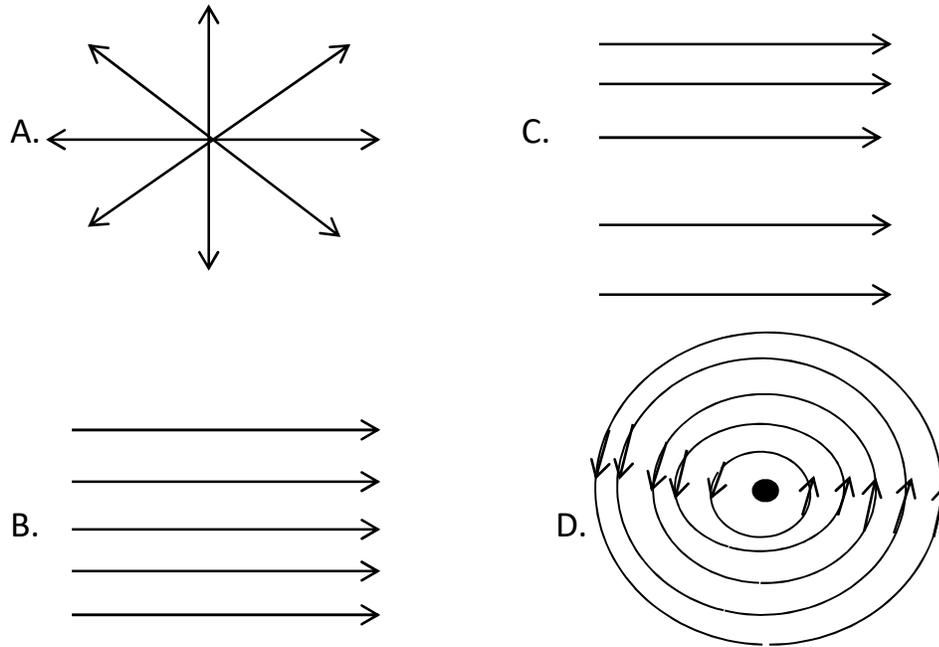
A. an electric current that runs along the length of the magnet.

B. the motion of charged particles in metal.

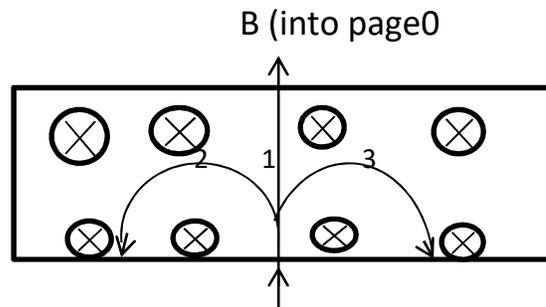
C. magnetic monopoles embedded in metal.

D. a hidden voltage source in the metal.

12. If the magnetic field in a certain region is uniform, which set of magnetic field lines can describe this fact graphically?



13. Three types of particles with unknown charges enter into a region of uniform magnetic field perpendicular to their velocities as shown in the figure below.

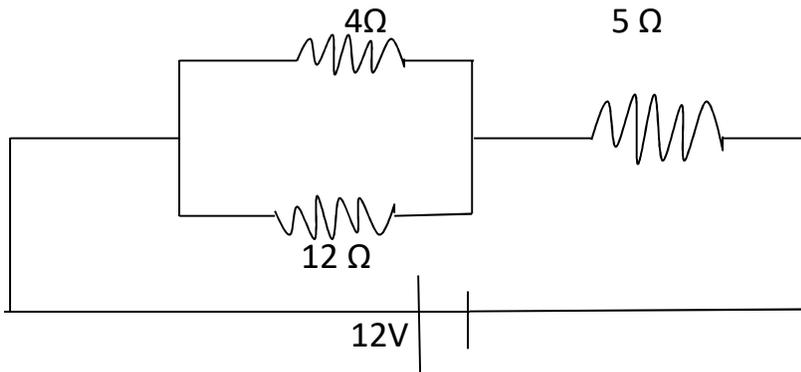


The charges of the particles travelling along the paths 1, 2, and 3, are respectively.

- A. neutral, positive, and negative.
- B. neutral, negative, and positive.
- C. negative, neutral, and positive.
- D. Positive, neutral, and negative.



18. The circuit diagram shown below is a combination of resistors and a voltage source.



The voltage drop across the 5Ω resistor is:

19. A simple circuit consists of a resistor of 10Ω connected to a battery of emf 18V. If the current through the circuit is 1.6A what is the internal resistance of the battery?

20. If a battery with an emf of 24V is connected to a 6-Ω resistor and as a result, a current of 3A exists in the resistor, what is the internal resistance of battery?

21. A stove that draws 10A current from 220V line is used for 5 hours. If the electrical company demands 20 cents per kilowatt-hour, what is the cost of the electrical energy consumed?

22. A long solenoid has 1000 turns uniformly distributed over a length of 0.40 m. What current is required I the windings to produce a magnetic field of magnitude  $\pi \times 10^{-4}$  T at the center of the solenoid? ( $\mu_0 = 4\pi \times 10^{-7}$ TM/A )

**Parents/Guardians signature \_\_\_\_\_ Date of submission: March 27, 2020**

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