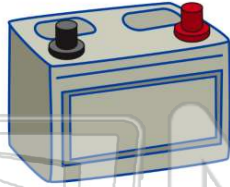




Name _____ Class _____ Date _____

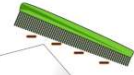
1 A **12-volt** automobile battery has 8.4×10^3 **coulombs** of electric charge. The amount of electrical energy **stored** in the battery is approximately

- A $1.0 \times 10^5 \text{ J}$
- B $8.4 \times 10^3 \text{ J}$
- C $7.0 \times 10^2 \text{ J}$
- D $1.4 \times 10^{-3} \text{ J}$



2 A **negatively** charged plastic comb is brought close to, but does **not** touch, a small piece of paper. If the comb and the paper are **attracted** to each other, **the charge on the paper**

- A may be negative or neutral
- B may be positive or neutral
- C must be negative
- D must be positive



3 In an electric field, **0.90 joule** of work is required to bring **0.45 coulomb** of charge from point A to point B. What is the **electric potential difference** between points A and B?

- A 5.0 V
- B 2.0 V

4 In a flashlight, a battery provides a total of **3.0 volts** to a bulb. If the flashlight bulb has an **operating resistance of 5.0 ohms**, the **current** through the bulb is

- A 0.30 A
- B 0.60 A

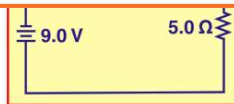


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7 A circuit with a 9.0 V battery and a 5.0 Ω resistor. The current through the resistor is

- A 1.0 A
- B 1.8 A
- C 2.3 A
- D 4.0 A



- A 50.0 Ω
- B 100 Ω
- C 150 Ω
- D 200 Ω

9 If the **potential difference** applied to a fixed resistance is **doubled**, the **power dissipated** by that resistance

- A remains the same
- B doubles
- C halves
- D quadruples

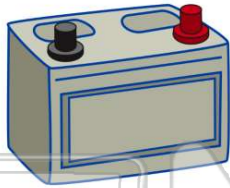
10 Two protons are located one meter apart. Compared to the **gravitational force** of attraction between the two protons, **the electrostatic force between the protons is**

- A stronger and repulsive
- B weaker and repulsive
- C stronger and attractive
- D weaker and attractive



ANSWER KEY

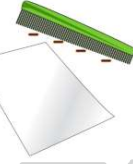
A **12-volt** automobile battery has 8.4×10^3 **coulombs** of electric charge. The amount of electrical energy **stored** in the battery is approximately



- A $1.0 \times 10^5 \text{ J}$
- B $8.4 \times 10^3 \text{ J}$
- C $7.0 \times 10^2 \text{ J}$
- D $1.4 \times 10^{-3} \text{ J}$

(a)

A **negatively charged plastic comb** is brought close to, but does **not** touch, a small piece of paper. If the comb and the paper are **attracted** to each other, **the charge on the paper**



(b)

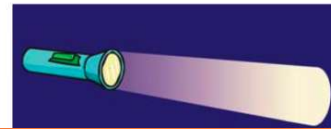
- A may be negative or neutral
- B may be positive or neutral
- C must be negative
- D must be positive

In an electric field, **0.90 joule** of work is required to bring **0.45 coulomb** of charge from point A to point B. What is the **electric potential difference** between points A and B?

- A 5.0 V
- B 2.0 V
- C 0.50 V
- D

(b)

In a flashlight, a battery provides a total of **3.0 volts** to a bulb. If the flashlight bulb has an operating resistance of **5.0 ohms**, the **current** through the bulb is



(b)

- A 0.30 A
- B 0.60 A
- C 1.5 A
- D



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- A 1.0 A
- B 1.8 A
- C 2.3 A
- D 4.0 A

- A 0.01 A
- B 100 Ω
- C 150 Ω
- D 200 Ω

If the **potential difference** applied to a fixed resistance is **doubled**, the **power dissipated** by that resistance

- A remains the same
- B doubles
- C halves
- D quadruples

(d)

Two protons are located one meter apart. Compared to the **gravitational force** of attraction between the two protons, the **electrostatic force** between the protons is

- A stronger and repulsive
- B weaker and repulsive
- C stronger and attractive
- D weaker and attractive

(a)