Electric Circuits

Phys Sci

Name_____ Class_____ Date_____

1 A wire carries a current of **2.0 amperes**. How many **electrons** pass a given point in this wire in **1.0 second**?

A 1.3×10^{18}
B 2.0×10^{18}
C 1.3×10^{19}
D 2.0×10^{19}

2 In order to measure the current through an electrical device, an **ammeter** is placed in series with the device. Compared to the electrical device, the **ammeter** should have a much

A lower permeability
B higher permeability
C lower resistance
D higher resistance

3 A current of **3.0 amperes** is flowing in a circuit. How much **charge** passes a given point in the circuit in **30 seconds**?

4 Compared to the power dissipated in the **1.0-ohm** resistor, the power **dissipated** in the **3.0-ohm** resistor is

5

7

A decrease
B increase
C remain the same

the filament of the bulb heats up, its **resistance**

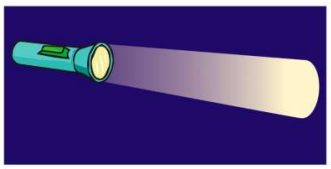
A increases and the current through it decreases
B increases and the current through it increases
C decreases and the current through it decreases
D decreases and the current through it increases

9 During a thunderstorm, a lightning strike transfers **12 coulombs** of charge in **2.0×10^{-3} second**. What is the **average current produced** in this strike?

A 1.7×10^{-4} A
B 2.4×10^{-2} A
C 6.0×10^{3} A
D 9.6×10^{3} A

10 How much **current** flows through a **12-ohm** flashlight bulb operating at **3.0 volts**?

A 0.25 A
B 0.75 A
C 3.0 A
D 4.0 A



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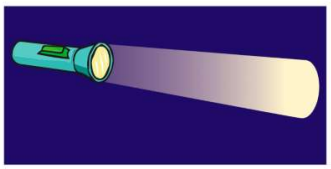

A