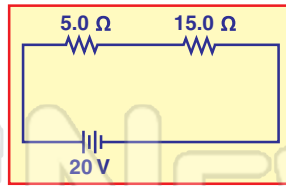# Electric Circuits

H.S. Phys

Name _____ Class _____ Date _____

1 The diagram below shows two resistors connected in series to a **20-volt battery**. If the current through the **5.0-ohm resistor** is **1.0 ampere**, the current through the **15.0-ohm resistor** is _____.
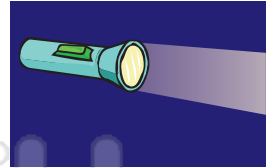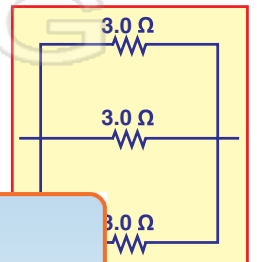
Circle the answer.

5.0 Ω   15.0 Ω

20 V

1.0 A   0.33 A   1.3 A   3.0 A

2 The diagram below represents an electric circuit. What is the **total** amount of energy delivered to the resistor in _____?

4.0 V

3 T...
d...
c...
th...
e...

4 If a 10-ohm resistor is connected in parallel with a **30-ohm** resistor, the **equivalent resistance** is _____.

2.0 Ω   10 Ω   15 Ω   45 Ω

5 A **10-meter** length of wire with a cross-sectional area of 3.0×10^{-6} square meter has a **resistance** of 9.4×10^{-2} ohm at 20°C. The wire is most likely **made of** _____.

silver   copper   aluminum

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

0.25 A   3.0 A

0.75 A   4.0 A

7 What is the **total resistance** of the circuit segment shown in the diagram?

Write the answer.

_____ Ω

3.0 Ω

3.0 Ω

3.0 Ω

...rcuit
...-watt
...a

...oulombs of
...hat is the
...is strike?

a. 1.7×10^{-4} A

b. 2.4×10^{-2} A

c. 6.0×10^{3} A

10 A current of **3.0 amperes** is flowing in a circuit. How much **charge** passes a **given point** in the circuit in **30 seconds**?
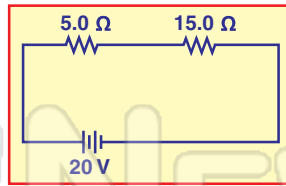
0.10 C   33 C
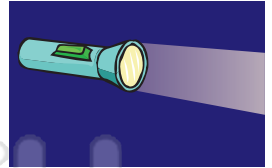
10 C   90 C

Name _____ Class _____ Date _____

1 The diagram below shows two resistors connected in series to a **20-volt battery**. If the current through the **5.0-ohm resistor** is **1.0 ampere**, the current through the **15.0-ohm resistor** is _____.
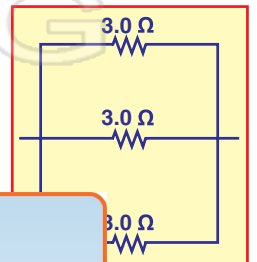
5.0 Ω   15.0 Ω

20 V

Circle the answer.

(1.0 A)   0.33 A   1.3 A   3.0 A

2 The diagram below represents an electric circuit. What is the **total** amount of energy delivered to the resistor in 1...

4.0 V

3 T...
d...
c...
th...
e...

4 If a 10-ohm resistor is connected in **parallel** with a **30-ohm** resistor, the **equivalent resistance** is _____.

2.0 Ω   (10 Ω)   15 Ω   45 Ω

5 A **10-meter** length of wire with a cross-sectional area of 3.0×10^{-6} square meter has a **resistance** of 9.4×10^{-2} ohm at 20°C. The wire is most likely **made of** _____.

silver   copper   (aluminum)

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7 What is the **total resistance** of the circuit segment shown in the diagram? Write the answer.

3.0 Ω
3.0 Ω
3.0 Ω

___1.0___ Ω

...rcuit
...watt
...a

...oulombs of
...hat is the
...is strike?

a. 1.7×10^{-4} A
b. 2.4×10^{-2} A
(c.) 6.0×10^{3} A

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0.10 C   33 C
10 C   (90 C)