Phys Sci
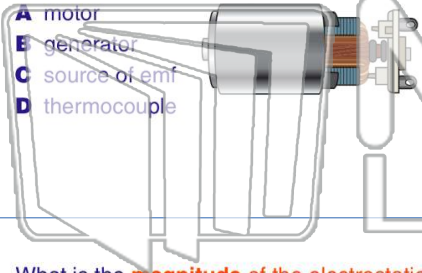
Name_____ Class_____ Date_____

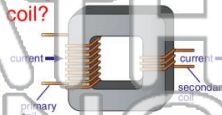**1** Which **device** converts **electrical** energy into **mechanical** energy?

A motor
B generator
C source of emf
D thermocouple

2 A **step-down transformer** used to run a toy train has an input of 120 volts to its primary coil. A potential difference of 12 volts is induced in the secondary coil, which carries a current of 12 amperes. If the transformer operates at **75% efficiency**, what is the current in the primary coil?

A 0.90 A   C 90 A
B 1.6 A   D 160 A

3 What is the **magnitude** of the electrostatic force acting on an electron located in an electric field having a strength of 5.0×10^3 ~~newtons per coulomb?~~

4 An operating electric iron draws a current of **5 amperes** and has a **resistance** of **20 ohms**. The amount of energy used by the ~~iron in 10 seconds is~~
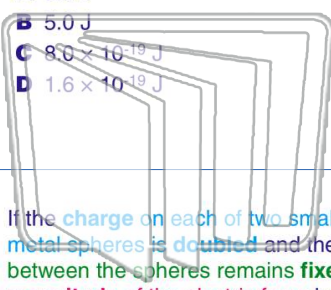
5

PREVIEW

Please [Sign In] or [Sign Up] to download
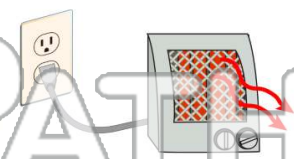the printable version of this worksheet

7 ~~...potential difference of 5.0 volts~~ is

A 8.0 J
B 5.0 J
C 8.0 × 10⁻¹⁹ J
D 1.6 × 10⁻¹⁹ J

~~...~~ **12 ohms**. How much **energy** does the heater use in **60 seconds**?

A 120 J
B 1200 J
C 7200 J
D 72,000 J

9 If the **charge** on each of two small charged metal spheres is **doubled** and the **distance** between the spheres remains **fixed**, the **magnitude** of the electric force between the spheres will be

A the same
B two times as great
C one-half as great
D four times as great

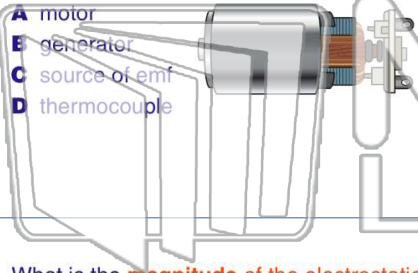**10** What is the **smallest** electric charge that can be put on an object?

A 9.11×10^{-31} C
B 1.60×10^{-19} C
C 9.00×10^9 C
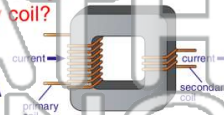D 6.25×10^{18} C

Name_____ Class_____ Date_____

1 Which **device** converts **electrical** energy into **mechanical** energy?

A motor
B generator
C source of emf
D thermocouple

A

2 A **step-down transformer** used to run a toy train has an input of 120 volts to its primary coil. A potential difference of 12 volts is induced in the secondary coil, which carries a current of 12 amperes. If the transformer operates at **75% efficiency**, what is the current in the primary coil?

A 0.90 A   C 90 A
B 1.6 A   D 160 A

B

current → current →
primary coil   secondary coil

3 What is the **magnitude** of the electrostatic force acting on an electron located in an electric field having a strength of 5.0×10^3 newtons per coulomb?

4 An operating electric iron draws a current of **5 amperes** and has a **resistance** of **20 ohms**. The amount of energy used by the iron in 40 seconds is
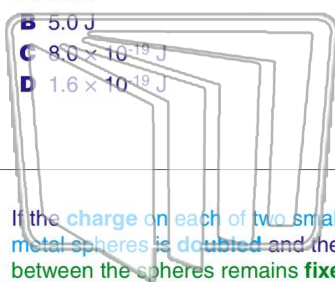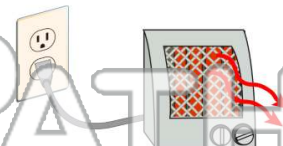
D

5

C

7 ... potential difference of 5.0 volts is

A 8.0 J
B 5.0 J
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D 1.6 × 10⁻¹⁹ J

C

... **12 ohms**. How much **energy** does the heater use in **60 seconds**?

A 120 J
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D four times as great

D

10 What is the **smallest** electric charge that can be put on an object?

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B 1.60×10^{-19} C
C 9.00×10^{9} C
D 6.25×10^{18} C

B