

DATE:

NAME:

CLASS:

CHAPTER 10
REINFORCEMENT

Calculating Charges (continued)

BLM 10-9

4. If the generator in question 3 burned enough gasoline to produce 28 800 J, what would the coulomb charge be at the negative terminal?

Calculations:

Bonus Question

5. A 12 V automobile battery uses 384 J of energy to separate the positive and negative charges.

(a) How many coulombs of negative charge are available?

Calculations:

- (b) If one electron has a charge of -1.6×10^{-19} C, how many electrons are there in the negative charge in question 5 (a)?

Calculations:

- (c) What is the charge in coulombs, on an object that has lost 2.5×10^{20} electrons?

Calculations:

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**CHAPTER 10
REINFORCEMENT****BLM 10-9****Calculating Charges****Goal** • Practise calculating a charge.**What to Do**

Perform the calculations necessary to answer the questions below.

Questions

1. A battery converts 72 J of chemical energy into electrical energy. This places 12 C of negative charge at the negative terminal. What is the potential difference between the negative and positive terminals of the battery?

Calculations:

2. How much energy can an electric motor produce when it is plugged into a 110 V outlet with a total charge of 50 C passing through the motor?

Calculations:

3. Gasoline-powered generators change chemical energy (in gasoline) into electrical energy. If a generator produces 120 V with a charge of 60 C at the negative terminal, how many joules of energy are produced?

Calculations: