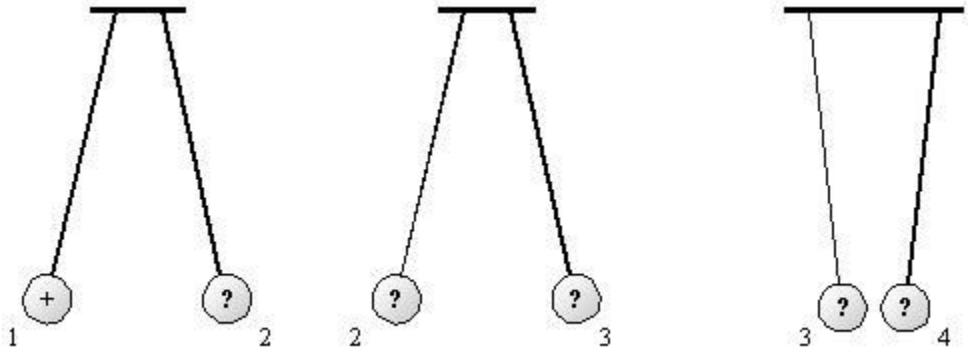
17.1 Electricity Quiz 1

1. A force of attraction always exists between two charged objects when

- A. the charges on both objects have different magnitudes.
- B. the charges on both objects have equal magnitudes.
- C. the charges on the objects have opposite signs.
- D. both objects have charges with the same sign.

2. In the diagram below, the circles represent small balls that have electric charges. Ball 1 has a positive charge, and ball 2 is repelled by ball 1. Ball 2 repels ball 3, and ball 3 attracts ball 4. What is the electric charge on ball 4?



- A. Ball 4 has a positive charge.
- B. Ball 4 has a negative charge.
- C. Ball 4 may have either a positive or negative charge.
- D. It is not possible to know the charge on ball 4.

3. The atoms of objects that are positively charged have

- A. lost electrons.
- B. gained electrons.
- C. lost protons.
- D. gained protons.

4. The fundamental unit of electric charge is equal to the charge on a(n)

- A. hydrogen atom.
- B. oil drop.
- C. single electron.
- D. single neutron.

5. A material that has few freely moving charge carriers is most likely to be classified as a(n)

- A. metal.
- B. semiconductor.
- C. insulator.
- D. conductor.

6. The process of charging by contact works

- A. only for insulators.
- B. only for conductors.
- C. when unlike materials rub against each other.
- D. when a charged object comes in contact with the ground.

7. A conductor can be charged by _____, but an insulator cannot.

- A. grounding
- B. induction
- C. polarization
- D. contact

8. A negatively charged sheet of plastic will stick to a glass window by

- A. taking electrons from the glass.
- B. taking protons from the glass.
- C. giving electrons to the glass.
- D. polarizing the glass.