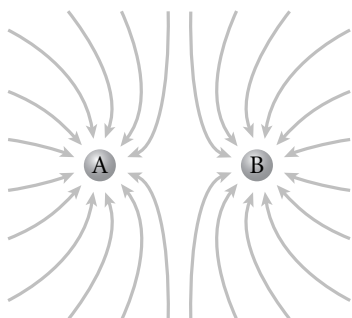




# Standardized Test Prep

## MULTIPLE CHOICE

1. In which way is the electric force similar to the gravitational force?
  - A. Electric force is proportional to the mass of the object.
  - B. Electric force is similar in strength to gravitational force.
  - C. Electric force is both attractive and repulsive.
  - D. Electric force decreases in strength as the distance between the charges increases.
2. What must the charges be for A and B in the figure below so that they produce the electric field lines shown?
  - F. A and B must both be positive.
  - G. A and B must both be negative.
  - H. A must be negative, and B must be positive.
  - J. A must be positive, and B must be negative.



3. Which activity does not produce the same results as the other three?
  - A. sliding over a plastic-covered automobile seat
  - B. walking across a woolen carpet
  - C. scraping food from a metal bowl with a metal spoon
  - D. brushing dry hair with a plastic comb

4. By how much does the electric force between two charges change when the distance between them is doubled?
  - F. 4
  - G. 2
  - H.  $\frac{1}{2}$
  - J.  $\frac{1}{4}$

*Use the passage below to answer questions 5–6.*

A negatively charged object is brought close to the surface of a conductor, whose opposite side is then grounded.

5. What is this process of charging called?
  - A. charging by contact
  - B. charging by induction
  - C. charging by conduction
  - D. charging by polarization
6. What kind of charge is left on the conductor's surface?
  - F. neutral
  - G. negative
  - H. positive
  - J. both positive and negative

*Use the graph on the next page to answer questions 7–10. The graph shows the electric field strength at different distances from the center of the charged conducting sphere of a Van de Graaff generator.*

7. What is the electric field strength 2.0 m from the center of the conducting sphere?
  - A. 0 N/C
  - B.  $5.0 \times 10^2$  N/C
  - C.  $5.0 \times 10^3$  N/C
  - D.  $7.2 \times 10^3$  N/C