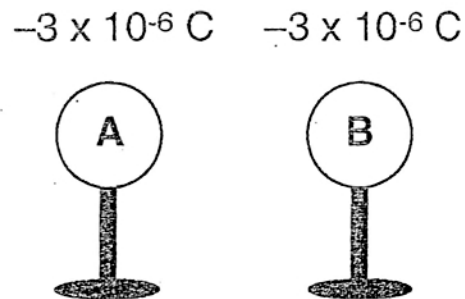


Electrostatics Practice

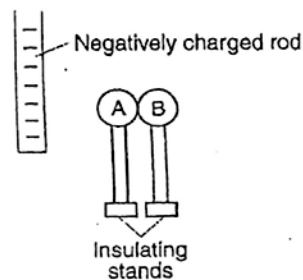
- Two objects, *A* and *B* are rubbed together. If object *A* acquires an excess of 100 electrons object *B* must have
 - gained 100 electrons
 - gained 100 protons
 - lost 100 electrons
 - lost 100 protons
- Two metal spheres having charges of $+4.0 \times 10^{-6}$ coulomb and $+2.0 \times 10^{-5}$ coulomb, respectively, are brought into contact and then separated. After separation, the charge on each sphere is
 - 8.0×10^{-11} C
 - 8.0×10^{-6} C
 - 2.1×10^{-6} C
 - 1.2×10^{-5} C
- A glass rod is given a positive charge by rubbing it with silk. The rod has become positive by
 - gaining electrons
 - gaining protons
 - losing electrons
 - losing protons
- An object possessing an excess of 6.0×10^6 electrons has a net charge of
 - 2.7×10^{-26} C
 - 5.5×10^{-24} C
 - 3.8×10^{-13} C
 - 9.6×10^{-13} C
- An object can *not* have a charge of
 - 3.2×10^{-19} C
 - 4.5×10^{-19} C
 - 8.0×10^{-19} C
 - 9.6×10^{-19} C
- What is the smallest electric charge that can be put on an object?
 - 9.11×10^{-31} C
 - 1.60×10^{-19} C
 - 9.00×10^9 C
 - 6.25×10^{18} C
- Metal sphere *A* has a charge of +12 elementary charges and identical sphere *B* has a charge of +16 elementary charges. After the two spheres are brought into contact, the charge on sphere *A* is
 - 2 elementary charges
 - +2 elementary charges
 - +14 elementary charges
 - +28 elementary charges
- As the electric charge on the surface of a hollow metal sphere increases, the electric field intensity inside the sphere
 - decreases
 - increases
 - remains the same

- The diagram below shows two identical metal spheres, *A* and *B*, on insulated stands. Each sphere possesses a net charge of -3×10^{-6} coulomb.



If the spheres are brought into contact with each other and then separated, the charge on sphere *A* will be

- 0 C
 - $+3 \times 10^{-6}$ C
 - -3×10^{-6} C
 - -6×10^{-6} C
- Two electrically neutral metal spheres, *A* and *B*, on insulating stands are placed in contact with each other. A negatively charged rod is brought near, but does not touch the spheres, as shown in the diagram below.



How are the spheres now charged?

- A* is positive and *B* is positive.
 - A* is positive and *B* is negative.
 - A* is negative and *B* is positive.
 - A* is negative and *B* is negative.
- What is the approximate electrostatic force between two protons separated by a distance of 1.0×10^{-6} meter?
 - 2.3×10^{-16} N and repulsive
 - 2.3×10^{-16} N and attractive
 - 9.0×10^{21} N and repulsive
 - 9.0×10^{21} N and attractive