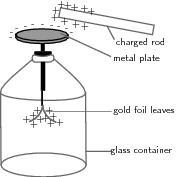
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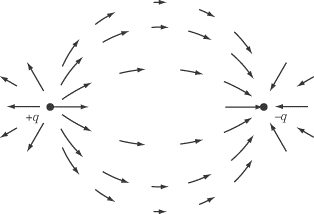
Final Review: Electrostatics

1. A neutral rod accumulates a negative charge when it is rubbed with animal fur (aka charged by friction). It can be said that
   1. The protons were transferred from the rod to the animal fur thus making the rod negatively charged, and the fur positively charged.
   2. The electrons were transferred from the rod to the animal fur thus making the rod negatively charged and the fur positively charged.
   3. The protons were transferred from the animal fur to the rod thus making the rod negatively charged, and the fur positively charged.
   4. The electrons were transferred from the animal fur to the rod thus making the rod negatively charged, and the fur positively charged.
2. The picture below shows a charged rod being held over a once neutral metallic plate. It can be said that the plate becomes positively charged through what charging method?



* 1. Conduction
  2. Induction
  3. Friction
  4. Convection

1. If the rod from question two touches the metallic plate of the electroscope, the metal plate will end up\_\_\_\_.
   1. Neutral
   2. Negative
   3. Positive
   4. No charge
2. If the rod from question two touches the metal part of the electroscope, it can be said that the electroscope was charged by\_\_\_\_\_\_\_\_\_.
   1. Conduction b. induction c. friction
3. It can be said that two charges
   1. Will always be attracted to one another.
   2. Will always be repelled by one another.
   3. Will be able to attract some charges and repel others.
   4. Will not interact with other charges.
4. According to the below electric field diagram, the left charge is \_\_\_\_\_\_\_\_\_\_\_ and the right charge is \_\_\_\_\_\_\_\_\_\_\_.



* 1. positive, positive
  2. positive, negative
  3. negative , negative
  4. negative, positive

1. To charges, 3 C and -2 C, are separated by a distance of 7mm. The two charges are….
   1. attracted to each other.
   2. repelled by each other.
   3. not interacting with each other.
   4. none of the above!
2. If the distance between the two charges in question seven is doubled. The force between the two charges will….
   1. double. b. half. C. quadruple. Quarter.
3. Find the force of attraction between a 3.7µC charge and a 4.2µC charge that is separated by a distance of 3 cm.
   1. 1.5 x 1010 N
   2. 1.55 x 103 N
   3. 4.66 x 10-6 N
   4. 1.55 x 10-8 N
4. A good insulator has \_\_\_\_\_\_\_\_ electrons; a good conductor will have \_\_\_\_\_\_\_ electrons.
   1. loosely bound, tightly bound
   2. tightly bound, loosely bound
   3. loosely bound, loosely bound
   4. tightly bound, tightly bound