

Solutions

Each answer shows the steps, then the **result**.

2.1

- friction, conduction (contact), and induction

2.2

- grounding lets electrons flow in or out, leaving the conductor with a net induced charge once the ground is removed

2.3

- entirely on its outer surface

3.1 C

3.2 A

3.3

(a)

- negative

(b)

- the positive rod attracts electrons to the near side; grounding lets more electrons flow onto the sphere; removing the ground traps this extra negative charge, then removing the rod leaves the sphere negatively charged