

9.2

CHECK YOUR Understanding

1. Explain how an object becomes charged by friction. Use diagrams in your answer.
2. Write your own definition of charging by conduction.
3. Write your own definition of charging by induction.
4. When an object is charged by contact, what kind of charge does the object have compared with the charge on the object giving the charge?
5. Use a diagram to show the result when a negatively charged object touches an uncharged pith ball.
6. What are the differences between charging objects by conduction and by induction? Give an example of each method.
7. Can a positive object be used to give a second object a negative charge by conduction? Can induction be used to make the second object negative? Explain your answers using words or diagrams.
8. When you are in bed at night in the dark and rub your feet on the sheets, you may observe tiny flashes of light. Give an explanation for this observation. You may also see this effect if you pull clear tape from a roll in the dark. How are these two effects the same?
9. Describe how you could determine whether the static charge on a sock from a clothes dryer is positive or negative (Figure 6).
10. Figure 7(a) shows a metal sphere being charged by induction using a positively charged rod. Figure 7(b) shows a finger touching the metal sphere to discharge it. In Figure 7(c), both the rod and the finger have been taken away. Copy the three diagrams into your notebook. Using red positive signs and blue negative signs, show how the sphere becomes charged in each diagram.



Figure 6

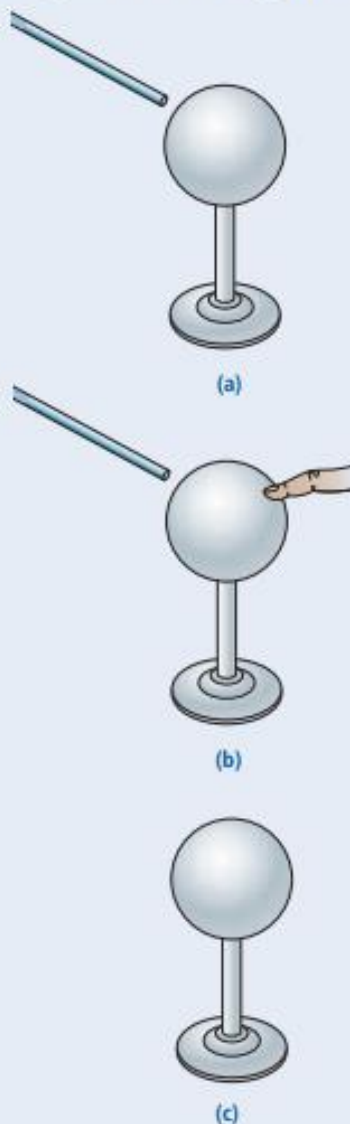


Figure 7