

Section 9.2 Making Sense of Static Electricity – Answer Key

- 1) Charged objects **attract** neutral objects.
- 2) Identical charged objects **repel** each other.
- 3) Opposite charges are **attracted** to each other.
- 4) Define the *law of attraction and repulsion*.

**The law of attraction and repulsion states that like charges repel and unlike charges attract.**

- 5) Who named the type of charge on amber after it had been rubbed with fur?

**Benjamin Franklin named the type of charge on amber after it had been rubbed with fur.**

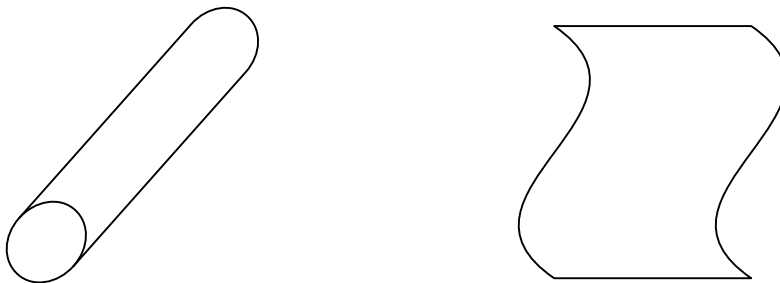
- 6) What type of charge is on amber after it has been rubbed with fur?

**A negative charge is on amber after it has been rubbed on fur.**

- 7) What makes an object neutral?

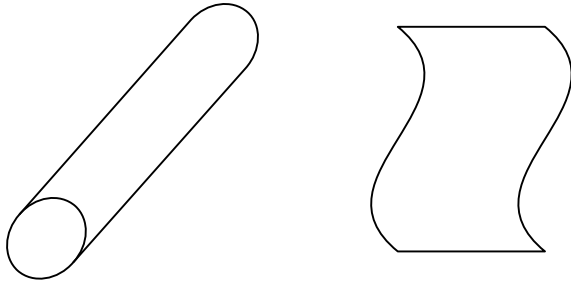
**An object is neutral if it has an equal number of positive and negative charges.**

- 8a) Draw the charges on the neutral glass rod and cotton cloth (See page 302).



- b) Explain how their charges are distributed. **The charges are evenly distributed.**

9a) Draw the charges on the glass rod and cloth after they have been rubbed together (See page 302).



b) Explain how their charges are now distributed.

**Negative charges are rubbed from the glass rod onto the cloth. The glass rod is now positively charged and the cloth is negatively charged.**

10) What can a metal leaf electroscope detect?

**It can detect the presence of a charge.**

11) Explain how an electroscope works. Include a diagram (See page 303).

**When a negatively charged rod is brought near or in contact with the metal sphere, negative charges move toward the metal leaves. Since the leaves are both negatively charged, they repel each other.**

12) Define Induction.

**Induction occurs when a charged object rearranges the charges in a neighbouring object without touching it.**