Review Pak #3
Do You Want to Be Shocked?

1. Which of the following particles has a negative charge?

   (A) electrons
   (B) protons
   (C) neutrons

2. A neutral object can become negatively charged by

   (A) gaining protons.
   (B) losing protons.
   (C) gaining electrons.
   (D) losing electrons.

3. A neutral object can become positively charged by

   (A) gaining protons.
   (B) losing protons.
   (C) gaining electrons.
   (D) losing electrons.

4. Two spheres are charged as shown below.



X Y

What will happen to the spheres?

(A) Sphere Y will be attracted to sphere X.
(B) Sphere Y will be repelled by sphere X.
(C) Sphere Y will be unaffected by sphere X.

5. Two spheres are charged as shown below.



X Y

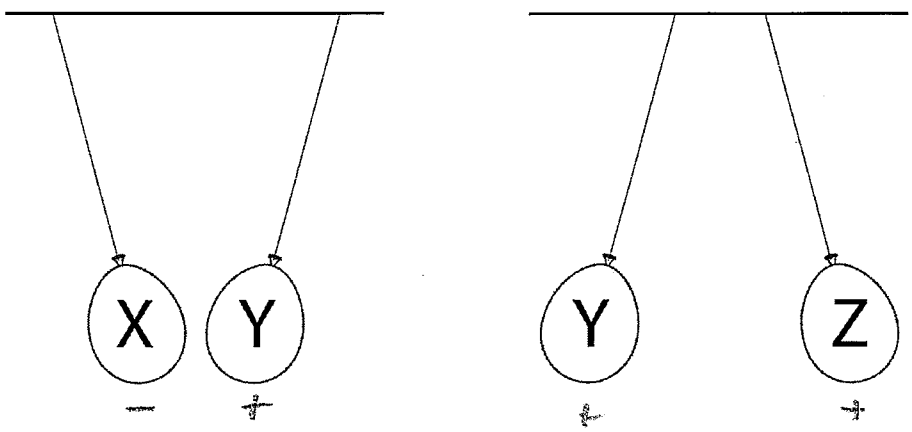
What will happen to the spheres?

(A) Sphere Y will be attracted to sphere X.
(B) Sphere Y will be repelled by sphere X.
(C) Sphere Y will be unaffected by sphere X.

6. Two balloons, X and Y are placed near each other and subsequently repel each other. If balloon X is positively charged, then Y MUST be

(A) positively charged.
(B) negatively charged.
(C) neutral.
(D) either positively or negatively charged.

7. Balloons X, Y and Z are suspended from strings as shown below.



Negatively charged balloon X attracts balloon Y, while balloon Y repels balloon Z. The charge on balloon Z

(A) may be positive, negative, or neutral.

(B) may be either positive or neutral.

(C) may be either negative or neutral.

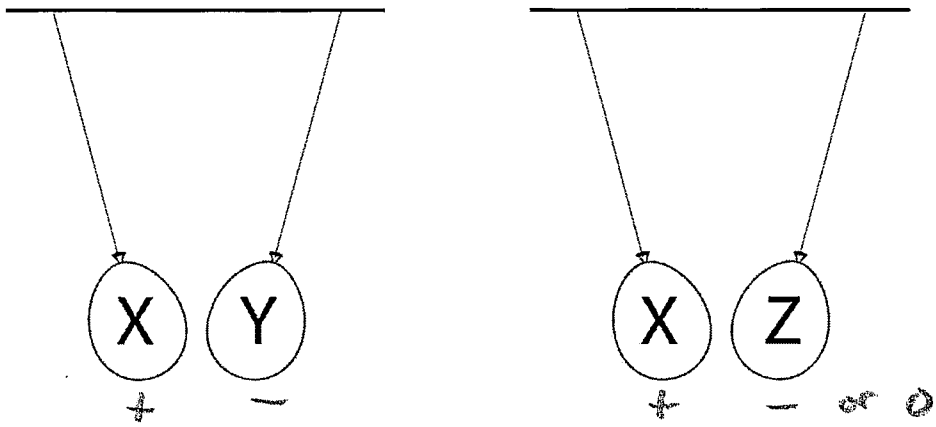
(D) may be either positive or negative.

(E) must be positive.

(F) must be negative.

(G) must be neutral.

8. Balloons X, Y and Z are suspended from strings as shown below.



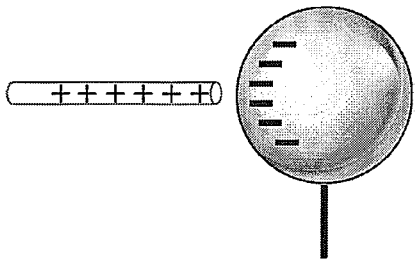
Positively charged balloon X attracts balloon Y and balloon Z. The charge on balloon Z

(A) may be positive, negative, or neutral.
(B) may be either positive or neutral.
(C) may be either negative or neutral.
(D) may be either positive or negative.
(E) must be positive.
(F) must be negative.
(G) must be neutral.

9. A glass rod touches a metal sphere giving it a positive charge. This is called

(A) charging by induction.
(B) charging by conduction.
(C) polarization.

10. A positively charged rod is brought near a metal sphere but does not touch it.



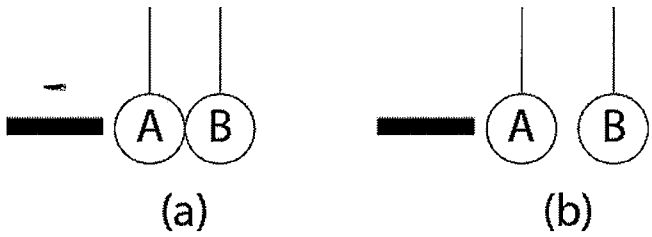
The electrons in the sphere move towards the positively charged rod as shown above. This situation is referred to as

(A) charging by induction.

(B) charging by conduction.

(C) polarization.

11. Two uncharged conducting spheres, A and B, are suspended from insulating threads so that they touch each other as shown in (a). While a negatively charged rod is held near, but not touching sphere A, the two spheres are separated as shown in (b).



(a) (b)

How will the spheres be charged, if at all?

	Sphere A	Sphere B
(A)	Neutral	Neutral
(B)	Negative	Positive
(C)	Positive	Negative
(D)	Positive	Neutral

12. A student has been given three charged spheres.
The student discovers the following information.

Spheres A and B attract one another.
Spheres B and C also attract one another.
Spheres A and C repel one another.

The student is told that Sphere C has a negative charge.

What is the charge on the other two spheres? Explain your reasoning.

Sphere A: $-$ Sphere B: $+$

Reasoning:

A B
O O must be oppositely charged because they attract.

B C
O O must be oppositely charged because the attract.

Since C is $-$, then B must be $+$

Since A + B are oppositely charged A must be $-$.