

تم تحميل هذا الملف من موقع المناهج الإماراتية



*للحصول على أوراق عمل لجميع الصفوف وجميع المواد اضغط هنا

<https://almanahj.com/ae>

* للحصول على أوراق عمل لجميع مواد الصف الثاني عشر العام اضغط هنا [12/ae/com.almanahj//:https](https://almanahj.com/ae/12)

* للحصول على جميع أوراق الصف الثاني عشر العام في مادة فيزياء ولجميع الفصول, اضغط هنا

<https://almanahj.com/ae/12physics>

* للحصول على أوراق عمل لجميع مواد الصف الثاني عشر العام في مادة فيزياء الخاصة بـ الفصل الأول اضغط هنا

<https://almanahj.com/ae/12physics1>

* لتحميل كتب جميع المواد في جميع الفصول للـ الصف الثاني عشر العام اضغط هنا [grade12/ae/com.almanahj//:https](https://almanahj.com/ae/grade12)

للتحدث إلى بوت المناهج على تلغرام: اضغط هنا [bot_almanahj/me.t//:https](https://t.me/bot_almanahj)

1- Materials that allow charges to move about easily are called _____.

- A) Conductors B) Insulators C) Facilitators D) Plastics

2- What are the two kinds of electrical charges?

- A) Positive and negative B) Static and dynamic C) High and low D) Destructive and constructive

3- The best explanation for why the phenomenon in the figure below occurs is _____.

- A) the paper bits are gravitationally attracted to the ruler.
 B) The opposite electrical charges on the ruler and paper bits are attracted to each other.
 C) the paper bits are magnetically attracted to the ruler.
 D) The same electrical charges on the ruler and paper bits are attracted to each other



4- If a positively charged glass rod is suspended so that it turns easily, and another positively charged glass rod is brought close to it, the two rods will _____.

- A) Not react B) Fuse C) Repel each other D) attract each other

5- Materials through which electrical charges will not move easily are called _____.

- A) Ions B) Conductors C) Grounders D) Insulators

6- Two negatively charged bodies, each charged with $-7.4 \times 10^{-6} \text{ C}$, are 0.20 m from each other. What force acts on each particle and in what direction?

- A) $1.2 \times 10^1 \text{ N}$, repulsive B) $2.5 \times 10^3 \text{ N}$, attractive C) $1.2 \times 10^1 \text{ N}$, attractive D) $3.0 \times 10^5 \text{ N}$, repulsive

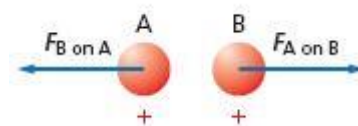
7- A positive and a negative charge, each of magnitude $2.7 \times 10^{-4} \text{ C}$, are separated by a distance of 10.0 cm. What is the force and direction of the force on each of the particles?

- A) $6.6 \times 10^4 \text{ N}$, attractive B) $-6.6 \times 10^4 \text{ N}$, attractive C) $6.6 \times 10^4 \text{ N}$, repulsive D) $6.6 \times 10^2 \text{ N}$, repulsive

8- The SI standard unit of charge is the _____.

- A) Ohm B) coulomb C) volt D) joule

9- In the figure below, if q_1 is 2.0 mC, q_2 is 3.0 mC, and the separation between them is 2.5 m, what is the magnitude of the force between them?



- A) 8600 N B) 2.4 N C) 5400 N D) 220,000

10- Force of 8.2×10^4 N exists between a positive charge of 3.9×10^{-5} C and a negative charge of -6.7×10^{-5} C. What distance separates the charges?

- A) 1.7×10^{-2} m B) 1.4×10^2 m C) 2.9×10^{-4} m D) 1.7×10^2 m

11- Force of 7.7×10^3 N exists between a positive charge of 5.6×10^{-4} C and a negative charge of -2.1×10^{-4} C. What distance separates the charges?

- A) 0.14 m B) 3.7 m C) 0.37 m D) 1.4 m

12- Coulomb's law states that _____.

- A) The magnitude of the force between two charges is inversely proportional to the magnitude of the charges and proportional to the square of the distance between them
B) The ratio of the potential difference to the current is constant
C) The direction of the magnetic field in a wire is perpendicular to the flow of electric current in the wire
D) The magnitude of the force between two charges is proportional to the magnitude of the charges and inversely proportional to the square of the distance between them

13- The magnitude of the charge of an electron is called the _____.

- A) Negative charge B) secondary charge C) frequency D) elementary charge

14- A(n) _____ is a device used for detecting electrical charges.

- A) Electroscope B) conducting sphere C) oscilloscope D) cathode-ray tube

15- If you increase the distance between two charges, what happens to the force?

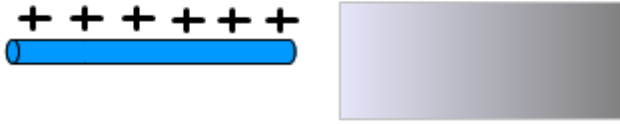
- A) It increases. B) It decreases. C) It vanishes. D) It stays the same

16- _____ occurs when a neutral body is charged by touching it with a charged body.

- A) Static discharge B) Charging by infusion C) Charging by conduction D) Charging by induction

17- A plastic rod is rubbed with a piece of animal fur. The plastic rod acquires a negative charge during this process. Which of the following is true about the charge on the piece of fur?

- A. It acquires a positive charge but greater in magnitude than the rod
B. It acquires a positive charge but less in magnitude than the rod
C. It acquires a negative charge but greater in magnitude than the rod
D. It acquires a positive charge with the same magnitude as the rod

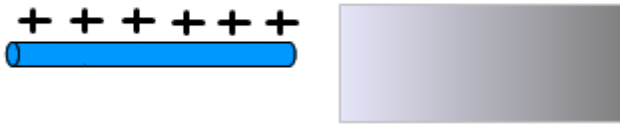


18-

A positively charged rod is brought close to one end of a neutral metallic plate. What type of charge is induced on the closest side of the plate?

- A. Positive with conduction
c. Positive with induction

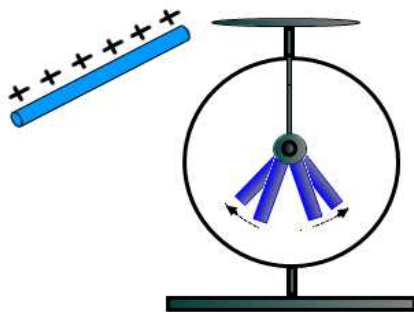
- B. Negative with conduction
D Negative with induction



19-A positively charged rod is brought close to one end of a neutral metallic plate. What type of charge is induced on the farthest side of the plate?

- A. Positive with conduction
C-Positive with induction

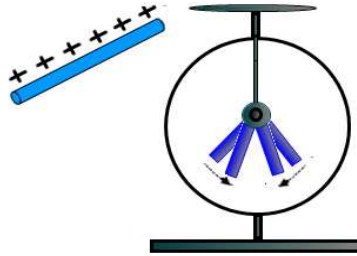
- B. Negative with conduction
D Negative with induction



20-A positively charged rod is brought near a charged electroscope. As a result of doing this, the electroscope leaves move further apart. What is the charge on the electroscope?

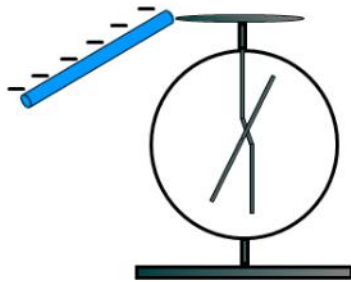
- A. Positive
C. It is neutral

- B. Negative
D. It depends on the distance between the electroscope and the rod



21-A positively charged rod is brought near a charged electroscope. As a result of doing this, the electroscope leaves move closer to each other. What is the charge on the electroscope?

- A. Positive B. Negative C. It is neutral

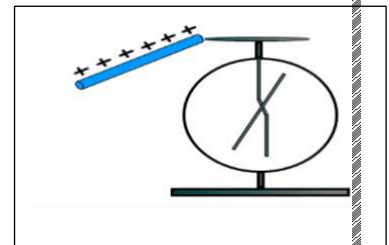


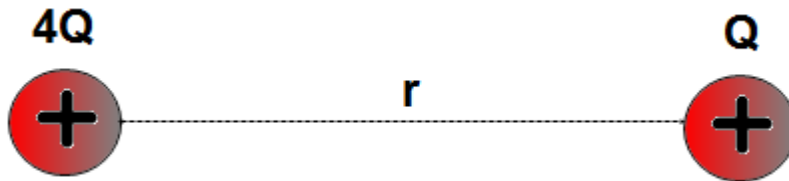
22-A neutral electroscope is touched with a negatively charged rod. What is the charge on the electroscope after the rod is removed?

- A. Positive B. Negative C. It stays neutral D- It depends on the contact time

23-A neutral electroscope is touched with a positively charged rod. After the rod is removed the electroscope is charged positively because of:

- A. Induction B. Conduction C. Thermo emission D. Photoemission



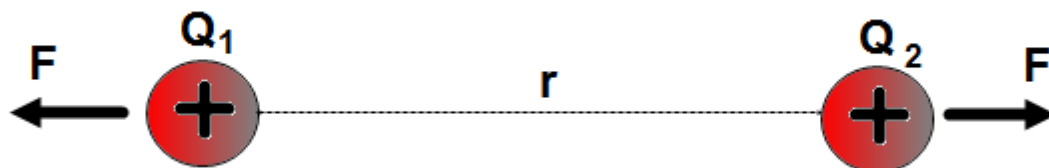
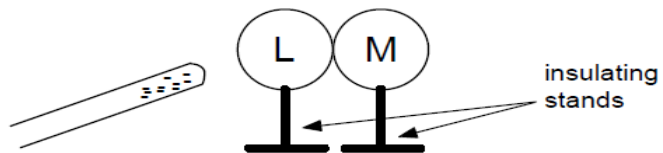


24-Two positive charges with magnitudes $4Q$ and Q are separated by a distance r . Which of the following statements is true?

- A. The charge with a greater magnitude exerts a larger force on the small charge
- B. The charge with a greater magnitude exerts a smaller force on the small charge
- C. The forces on each charge are the same in magnitude and opposite in direction
- D. The forces on each charge are the same in magnitude and pointing in the same direction

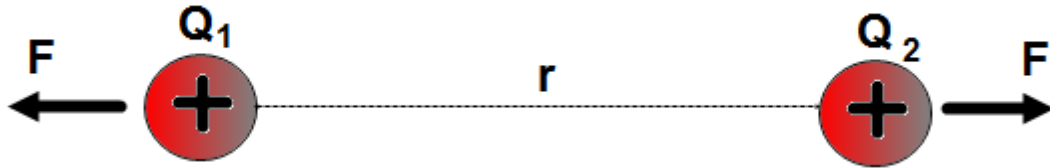
25. Two uncharged metal spheres, L and M, are in contact. A negatively charged rod is brought close to L, but not touching it, as shown. The two spheres are slightly separated and the rod is then withdrawn. As a result:

- A) both spheres are neutral.
- B) both spheres are positive.
- C) both spheres are negative.
- D) L is negative and M is positive.
- E) L is positive and M is negative.



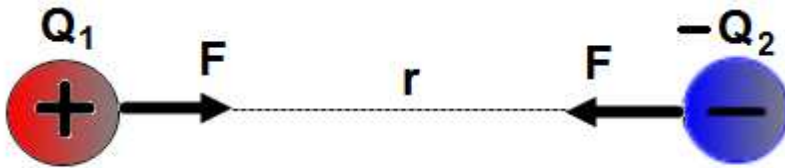
26-Two positive charges Q_1 and Q_2 are separated by a distance r . The charges repel each other with a force F . If the magnitude of each charge is doubled and the distance stays, unchanged what is the new force between the charges?

- A. F
- B. $2 F$
- C. $4 F$
- D. $14 F$
- E. $12 F$



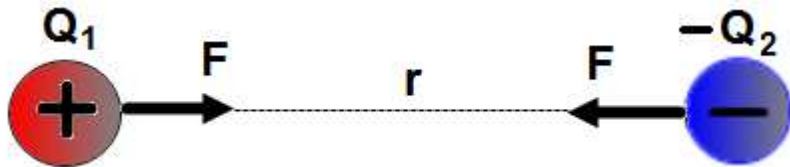
27-Two positive charges Q_1 and Q_2 are separated by a distance r . The charges repel each other with a force F . If the distance between the charges is cut to one-fourth what is the new force acting on each charge?

- A. $16 F$ B. $2 F$ C. $4 F$ D. $14 F$ E. $12 F$



28-Two charges Q_1 and $-Q_2$ are separated by a distance r . The charges attract each other with a force F . What is the new force between the charges if the distance is tripled?

- A. $16 F$ B. $2 F$ C. $4 F$ D. $14 F$ E. $19 F$

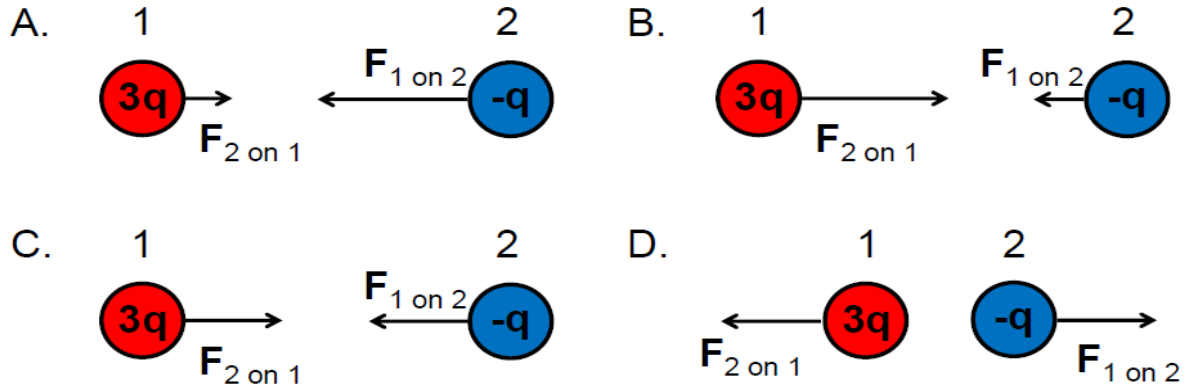


29-Two charges Q_1 and $-Q_2$ are separated by a distance r . The charges attract each other with a force F . What is the new force between the charges if the distance is cut to one-fourth and the magnitude of each charge is doubled?

- A. $16 F$ B. $64 F$ C. $48 F$ D. $148 F$ E. $164 F$

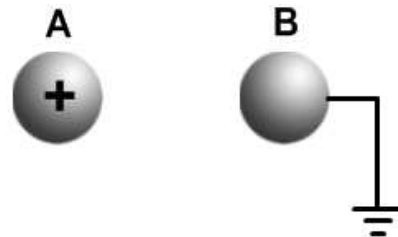
Consider two uniformly charged spheres a small distance apart. Sphere 1 has a $+3q$ charge while sphere 2 has a $-q$ charge.

Which of the following diagrams correctly shows the magnitude and direction of the electrostatic forces?



1. Sphere A carries a net positive charge, and sphere B is neutral. They are placed near each other on an insulated table. Sphere B is briefly touched with a wire that is grounded. Which statement is correct?

- (A) Sphere B remains neutral
- (B) Sphere B is now positively charged
- (C) Sphere B is now negatively charged
- (D) Sphere B is now positive and sphere A is negative



Materials through which electric charge can flow are called conductors

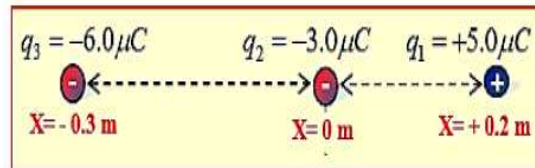
Materials through which electric charge can NOT EASILY flow are called insulators

Charging by Induction: If a charged object is brought near a conducting surface, even

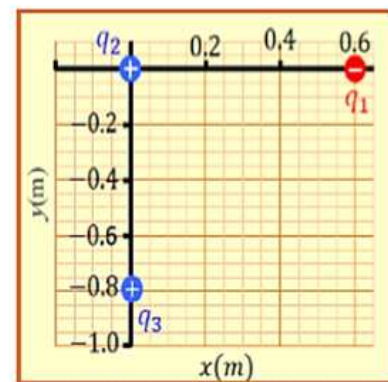
Without physical contact,

Charging by CONDUCTION: When a charged rod is placed in contact with a neutral object, some charge will transfer to the neutral object.

Q1: Calculate the amount of electrostatic force acting on the second charge(q_2), and determine its direction

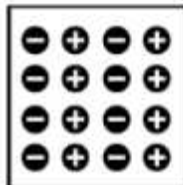


Q3: Calculate the amount of electrostatic force acting on the second charge(q_2), and determine its direction ($q_1 = -4 \times 10^{-8} \text{ C}$), ($q_2 = 8 \times 10^{-8} \text{ C}$), ($q_3 = 6 \times 10^{-8} \text{ C}$).



An object is electrically neutral when it has equal amounts of both types of charge.

This object is neutral



| | |
|-----------------|----|
| positive charge | +8 |
| negative charge | -8 |
| total | 0 |

JEHAD ALI GAZAWI