

1. A comb drawn through person's hair carries $10^{22} e^-$. Calculate the charge carried by the comb.
2. If a body gives out $10^9 e^-/s$, how much time is required to get a total charge of 1C from it?
3. What is the total +ve charge & -ve charge contained in 180 g of H_2O . (water is electrically neutral).
4. The electrostatic force of repulsion between two positively charged ions carrying equal charges is $3.7 \times 10^{-9} N$, when they are separated by a dist of $5 \times 10^{-10} m$. How many e^- are missing from each ion?
5. A particle of mass 'm' and carrying charge $-e$ is moving around a charge $+e$ along a circular path of radius 'r'. What is the time period of revolution.

6. Calculate the ratio of electrostatic force of attraction between an e^- and p^+ and gravitational force of attraction between them.

$$m_{e^-} = 9 \times 10^{-31} \text{ kg}$$

$$r = 1 \text{ m}$$

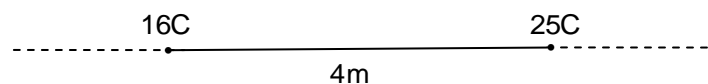
$$m_{p^+} = 1.6 \times 10^{-27} \text{ kg}$$

$$G = 6.6 \times 10^{-11} \text{ Nm}^2/\text{kg}^2$$

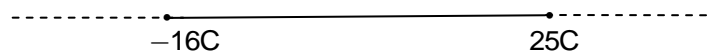
$$k = 9 \times 10^9 \text{ Nm}^2/\text{c}^2$$

$$\pm e = 1.6 \times 10^{-19} \text{ c}$$

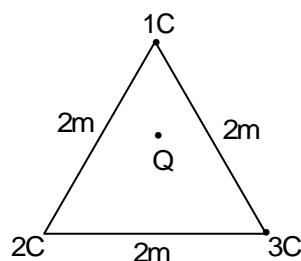
7. What we should we put a charge of 5C along the line so that $F_{\text{net}} = 0$. Does the nature of charge really matter?



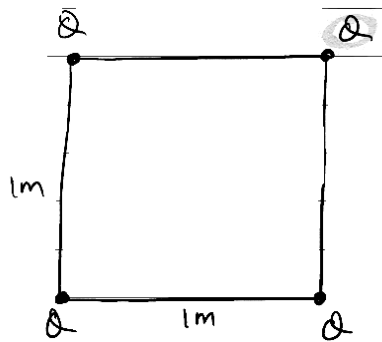
8. Consider the situation as above, where should we put $\pm 5C$ along the line so that $F_{\text{net}} = 0$.



9. Find the F_{net} on Q.



10. Find F_{net} on shaded Q.



11. How does a positively charged glass rod attract a neutral piece of paper?
12. When a body is charged, its mass also changes. Comment with reason.
13. Can two like charges attract each other? How?
14. What does $q_1 + q_2 = 0$ satisfy in electrostatics?
15. Can a body have a charge of $0.8 \times 10^{-19}\text{ C}$? Justify?

** Wish You all the Best **