

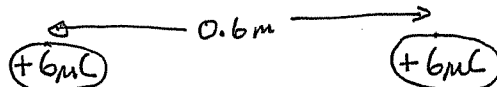
Physics 12 U7 – Electrostatics Worksheet #1

Name: _____

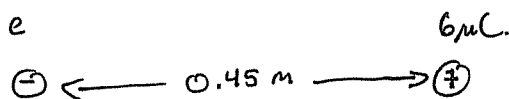
Coulombs Law $F = KQq/R^2$

Electric field = $E = F/q = Kq/R^2$ (similar to "g")

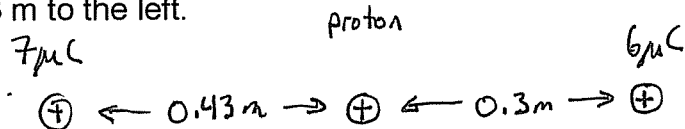
1. Calculate the force between two $6 \mu\text{C}$ charges that are 0.6 m apart.



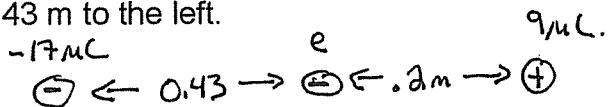
2. Calculate the force between an electron and a $6 \mu\text{C}$ charge 0.45 m apart.



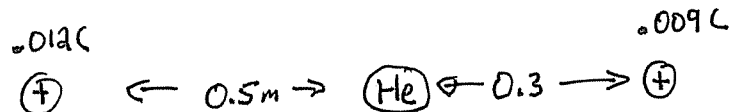
3. Calculate the net force on a proton that has a $6 \mu\text{C}$ charge 0.3m to the right and a $7 \mu\text{C}$ charge 0.43m to the left.



4. Calculate the net force on an electron that has a $9 \mu\text{C}$ charge 0.2m to the right and a $-17 \mu\text{C}$ charge 0.43m to the left.



5. Calculate the net force on a helium nucleus that has a 0.009C charge 0.3m to the right and a 0.012C charge 0.5m to the left.



6. Draw the electric field lines for the following three charge arrangements.

a)



b)

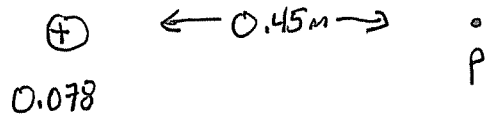


c)

_____ + plate

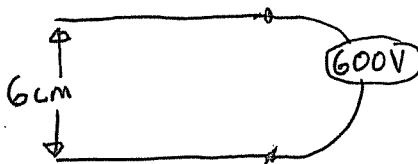
_____ - plate

7. Calculate the electric field at point P, 0.45 m from a 0.078 C charge.



8. A proton is pushed with a 0.0006 N force when in an electric field. Calculate the strength of E.

9. Calculate the E field between two plates that are separated by 0.06 m that are connected to a 600 V power source.



10. Calculate the electric field at point P which has a 0.05 C charge 4 cm to the right and a 0.009 C charge 1 cm to the left.

