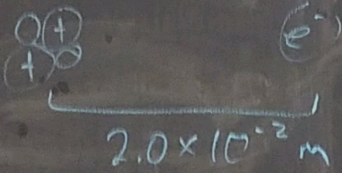


Class work P+1

Coulomb's Law $F_e = \frac{k q_1 q_2}{r^2}$

Find the electric force between an alpha particle & an electron that are 2.0 cm apart

Electric Force = $\frac{\text{(Coulomb's Constant)} \text{(Charge 1)} \text{(Charge 2)}}{\text{(Distance between charges)}^2}$



$2 \times 10^{-2} \text{ m}$
 $q_1 = 3.2 \times 10^{-19} \text{ C}$
 $q_2 = -1.6 \times 10^{-19} \text{ C}$

A diagram showing two charges, q_1 and q_2 , each in a circle. A horizontal line with arrows at both ends connects the two circles, with the label r written below it.

$k = 8.99 \times 10^9 \frac{\text{N m}^2}{\text{C}^2}$

$$F_e = \frac{(8.99 \times 10^9 \frac{\text{Nm}^2}{\text{C}^2})(3.2 \times 10^{-19} \text{ C})(-1.6 \times 10^{-19} \text{ C})}{(2 \times 10^{-2} \text{ m})^2}$$

$$F_e = -1.15 \times 10^{-24} \text{ N}$$

