DiffyQ

Unit 1

1 Some Basic Mathematical Models; Direction Fields

- Describes the force from one charged particle onto another charged particle

$$\hat{F_{1,2}} = k\frac{q_1 q_2}{r^2}\hat{r}$$

- $\hat{F_{1,2}}$ = Force from point q_1 onto q_2, (Newtons)
- k = $\frac{1}{4\pi\epsilon_0} = 9.0 * 10^9 \frac{Nm^2}{C^2}$
- q_1, q_2= Charge of q_1 and $q_2$respectively, (Coulombs)
- r=Distance between the two charges, (Meters)
- $\hat{r}$=Unit vector pointing in the direction of $F_{1,2}$