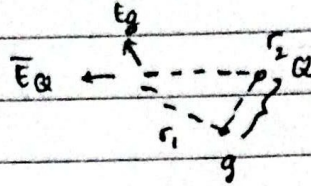
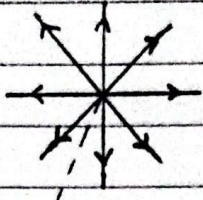


# # Kelistrikan dan Kemagnetan

Listrik Statis

Medan dapat ditimbulkan dari suatu muatan.

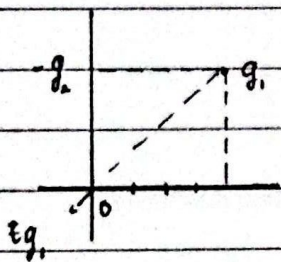


$\vec{E}$  (lambang medan)

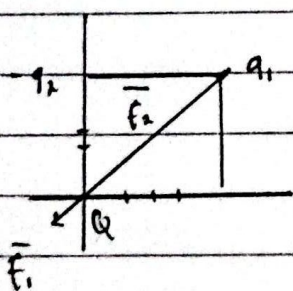
$$\vec{E} = \vec{E}_{Q1} + \vec{E}_{Q2}$$

$$\vec{E} = k \frac{q}{r^2} \hat{r}_0 \rightarrow \hat{r}_0 = \frac{\vec{r}}{|\vec{r}|}$$

$$= k \left( \frac{q}{r_1^2} \hat{r}_1 + \frac{q}{r_2^2} \hat{r}_2 \right)$$

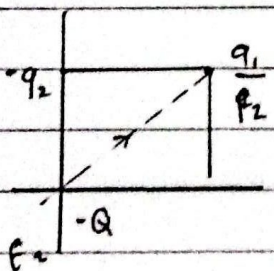


$$\begin{aligned} \vec{E}_{Q1} &= k \left( \frac{q_2}{3^2} (\hat{j}) \right) + \frac{q_1}{5^2} \left( \frac{-4\hat{i} - 3\hat{j}}{5} \right) \\ &= k \left( \frac{-4q_1}{125} \hat{i} + \left( \frac{q_2}{9} - \frac{3q_1}{125} \right) \hat{j} \right) \end{aligned}$$



$|\vec{E}|$

$$\vec{F} = \vec{F}_1 + \vec{F}_2 = kQ \left( \frac{q_2}{3^2} (\hat{j}) + \frac{q_1}{5^2} \left( \frac{-4\hat{i} - 3\hat{j}}{5} \right) \right)$$



$$\begin{aligned} \vec{F}_Q &= kQ \left( \frac{q_2}{3^2} (-\hat{j}) + \frac{q_1}{5^2} \left( \frac{4\hat{i} + 3\hat{j}}{5} \right) \right) \\ &= kQ \left( \frac{4q_2}{125} + \frac{q_1}{9} + 3 \right) \end{aligned}$$