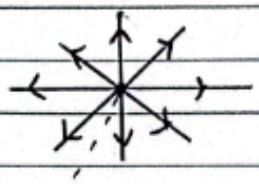
Kelistrikan & Kemagnetan

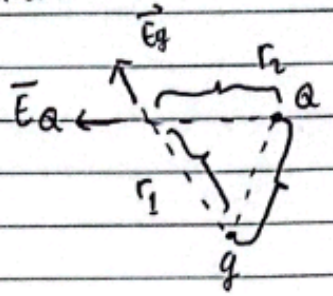
No
Date

Listrik statis

medan dapat ditimbulkan dari suatu muatan.

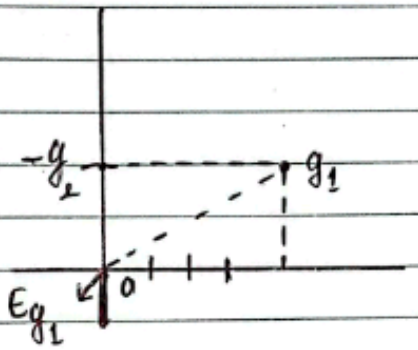


$\vec{E}$ (lambang medan)



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

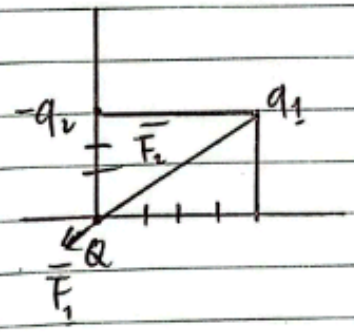
$$\vec{E}_r = \vec{E}_Q + \vec{E}_g = K\left[\frac{q}{r^2} r_q + \frac{Q}{r^2}\hat{r}_{Q2}\right]$$



$$\vec{E}_{(0)} = K\left[\frac{q_2}{3^2}(\hat{j}) + \frac{q_1}{5^2}\left(\frac{-4\hat{i} - 3\hat{j}}{5}\right)\right]$$

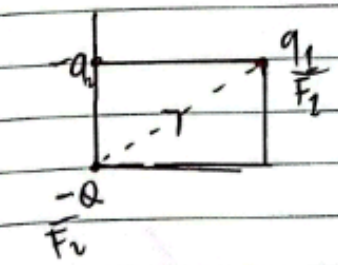
$$= K\left[\frac{-4q_1}{125}\hat{i} + \left(\frac{q_2}{9} - \frac{3q_1}{125}\right)\right]$$

$|\vec{E}|$



$$\vec{F} = \bar{F}_1 + \bar{F}_2$$

$$= KQ\left[\frac{q_2}{3^2}(\hat{j}) + \frac{q_1}{5^2}\left(\frac{-4\hat{i} - 3\hat{j}}{5}\right)\right]$$



$$\vec{F}_Q = KQ\left[\frac{q_2}{3^2}(-\hat{j}) + \frac{q_1}{5^2}\left(\frac{4i + 3\hat{j}}{5}\right)\right.$$

$$= KQ\left[\frac{4q_1}{125} + \frac{q_2}{9} + 3\right.$$