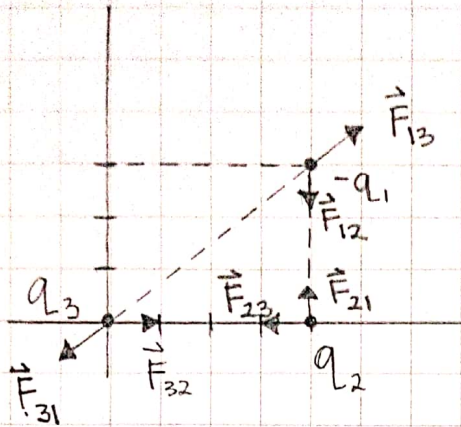


Kalisma



≠ q_1 dengan q_3
↳ tolak - menolak

≠ q_3 dengan q_2
↳ tarik - menarik

$$\vec{F}_{31} = \frac{1}{4\pi\epsilon_0} \frac{q_3 q_1}{5^2} \left(\frac{-4\hat{i} - 8\hat{j}}{5} \right)$$

"gaya"

$$\vec{F}_{32} = \frac{1}{4\pi\epsilon_0} \frac{q_3 q_1}{4^2} \hat{i}$$

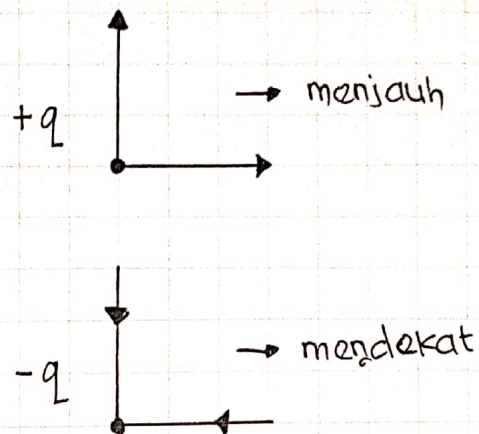
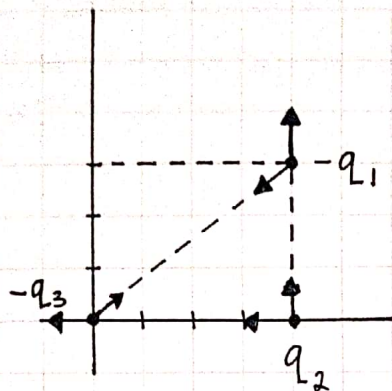
$$\vec{F}_{12} = k \frac{q_1 q_2}{3^2} \left(\frac{0\hat{i} + 3\hat{j}}{3} \right) = -k \frac{q_1 q_2}{3^2} \hat{j}$$

$$\vec{F}_{13} = k \frac{q_1 q_3}{5^2} \left(\frac{4\hat{i} + 3\hat{j}}{5} \right)$$

$$\vec{F}_{21} = k \frac{q_2 q_1}{3^2} \hat{j} \rightarrow \text{Karena tegak lurus nilai menjadi 0}$$

$$\vec{F}_{23} = k \frac{q_2 q_3}{4^2} (-\hat{i})$$

"Medan"



$$\vec{E}_{32} = \frac{F}{q_3} = k \frac{q_3 q_2 / r^2}{q_3}$$

$$\vec{E}_{31} = k \frac{q}{5^2} \left(\frac{4\hat{i} + 3\hat{j}}{5} \right)$$

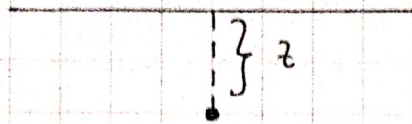
$$\vec{E}_{32} = k \frac{q_2}{4^2} (-\hat{i})$$

$$\vec{E}_{21} = k \frac{q_2 q_1}{3^2} \hat{j}$$

$$1. E = k \frac{q}{r^2} \hat{r}_0$$

$$\begin{aligned} &= k \sum_{i=1}^n \frac{q_i}{r_i^2} \hat{r}_{0i} \\ &\rightarrow = k \left[\sum_{i=1}^n \frac{q_i}{r_i^2} \hat{r}_{0i} + \frac{q_2}{r_2^2} \hat{r}_{02} + \dots + \frac{q_n}{r_n^2} \hat{r}_{0n} \right] \end{aligned}$$

2.



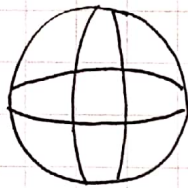
$$\vec{E} = K \int \frac{dq}{r^2} \hat{r}_0 = K \int \frac{\lambda dx}{r^2} \hat{r}_0 \rightarrow \text{Medan magnet Kawat lurus}$$

3.



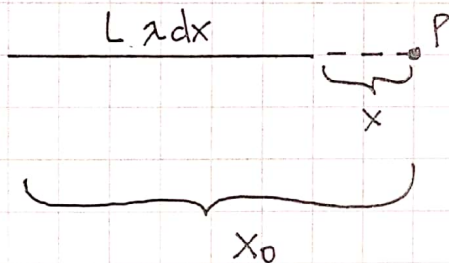
$$\vec{E} = K \iint \frac{\sigma dq}{r^2} \hat{r}_0 \rightarrow \text{Luasan}$$

4.



$$\vec{E} = K \iiint \frac{\rho dr}{r^2} \hat{r}_0 \rightarrow \text{Volume}$$

"Contoh goat"



1.

$$\vec{E}_P = K \int_0^L \frac{\lambda dx}{(x_0 - x)^2} = K \lambda \int_0^L \frac{dx}{(x_0 - x)^2}$$

$$\int \frac{dx}{x^2} = \int x^{-2} dx$$

$$= x^{-1} \Big|_0^L = \frac{1}{x} \Big|_0^L$$

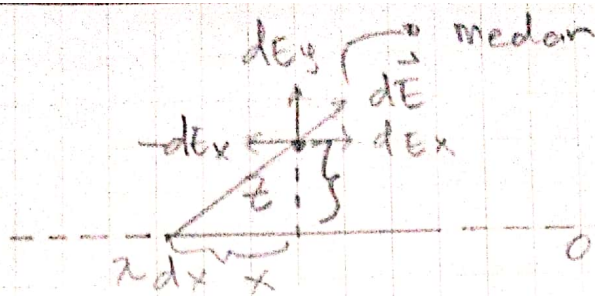
$$= k\lambda \int_0^L (x_0 - x)^{-2} dx$$

$$= k\lambda \left[\frac{1}{(x_0 - x)} \Big|_0^L \right]$$

$$= k\lambda \left[\frac{1}{(x_0 - L)} - \frac{1}{(x_0 - 0)} \right]$$

$$= k\lambda \left[\frac{x_0 - (x_0 - L)}{x_0 - (x_0 - L)} \right] = k\lambda \frac{L}{x_0 (x_0 - L)}$$

2



$$d\vec{E} = d\vec{E}_y + d\vec{E}_x$$

$$d\vec{E} = d\vec{E}_y$$

$$dE_y = dE \cos \theta$$

$$\vec{E} = k \int \frac{z dx}{r^2} \cos \theta$$

$$dq = z dx$$

Misal :

$$\cos \theta = \frac{z}{r}$$

$$r = \frac{z}{\cos \theta}$$

$$\tan \theta = \frac{x}{z}$$

$$x = z \tan \theta$$

$$dx = \frac{z}{\cos^2 \theta} d\theta$$

$$x = -\infty$$

$$\theta = -\frac{\pi}{2}$$

$$x = \infty$$

$$\theta = \frac{\pi}{2}$$

Masukan

Sampai seperti

bagian diatas