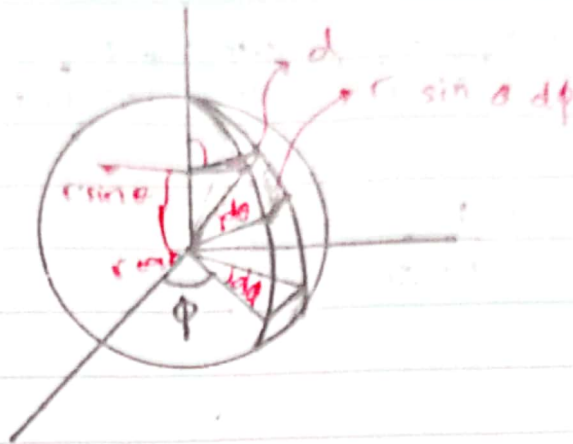


Gambar

Koordinat Bola



$$A \leq \rho \times L$$

$$= r d\theta \cdot r \sin \theta d\phi$$

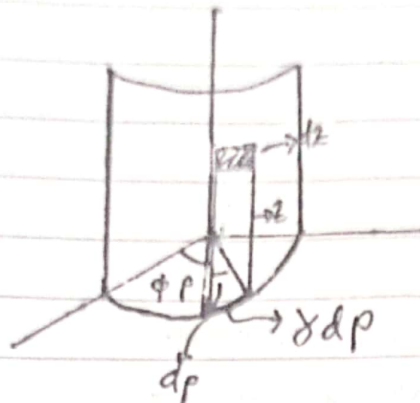
$$= r^2 \sin \theta d\theta \cdot d\phi$$

$$V = r^2 \sin \theta d\theta d\phi dr$$

$$A = \int_0^{2\pi} \int_0^{\pi} r^2 \sin \theta d\theta d\phi = 4\pi r$$

$$A = r^2 \int_0^{2\pi} d\phi \int_0^{\pi} \sin \theta$$

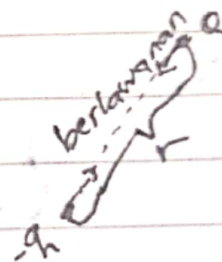
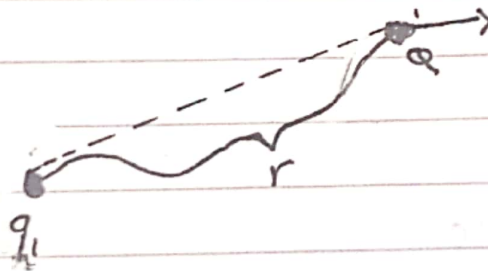
Koordinat Silinder



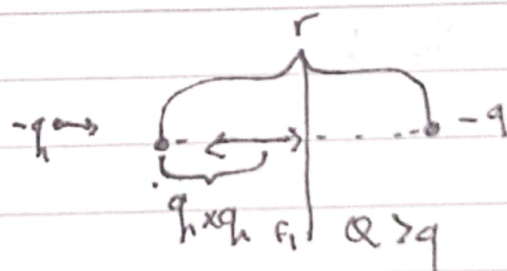
$$A = r^2 \phi dz$$

$$V = r^2 dp dz dp$$

"LISTRIK STATIS"



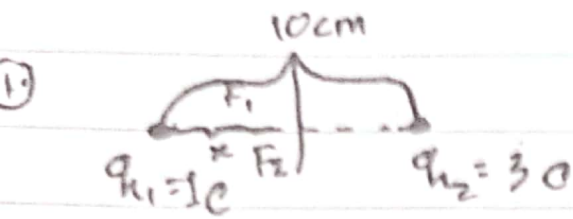
$$\vec{F} = \frac{1}{4\pi\epsilon_0} \frac{q_1 q_2}{r^2} \hat{r}$$



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

$$K \frac{q_1 q_2}{(r-x)^2} = K \frac{q_1 q_2}{x^2}$$

Contoh :



$$q_3 = -20$$

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

$$K \frac{1 \cdot x}{x^2} = K \frac{2 \cdot 3}{(10-x)^2}$$

$$\frac{1}{x^2} = \frac{3}{(10-x)^2}$$

$$\rightarrow (10-x)^2 = 3x^2$$

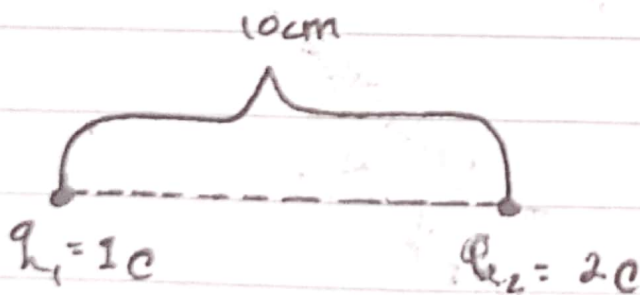
$$100 - 20x + x^2 = 3x^2$$

$$2x^2 + 20x - 100 = 0$$

$$x^2 + 10x - 50 = 0$$

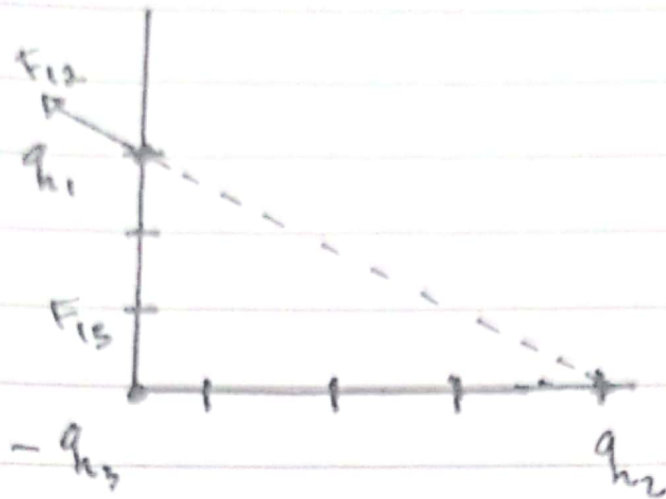
$$(x+15)(x-5) = 0$$

$$x = 5$$



$$q_3 = 10$$

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



$$\vec{F}_{13} = K \frac{q_1 q_3}{3^2} (-\hat{j})$$

$$= \frac{(0\hat{i} - 3\hat{j})}{\sqrt{0^2 + 3^2}}$$

$$\vec{F}_{12} = K \frac{q_1 q_2}{3^2} \left(\frac{4\hat{i} + 3\hat{j}}{5} \right)$$