No.

Date 01 . 04 . 2024

Pertemuan 7

Kalisma

Potensial Listrik

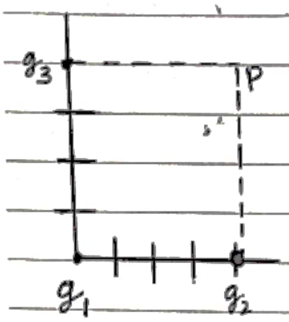
$$\int_a^b dV = -\int_{P_a}^{V_b} \vec{E}\, d\vec{P}$$

$$V\Big|_a^b = -\int_{P_a}^{V_b} k\frac{Q}{P^2}\, dP$$

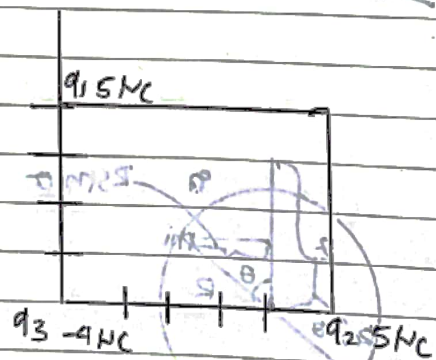
$$= -kQ\int_{P_a}^{P_b} \vec{P}\, dP$$

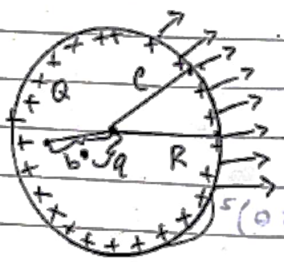
$$= -kQ\left(-P^{-1}\Big|_{P_a}^{P_b}\right) = kQ\left[\frac{1}{P_b} - \frac{1}{P_a}\right]$$

$$V_b - V_a = kQ\left[\frac{1}{P_b} - \frac{1}{P_a}\right]$$



$$V_P = k\left[\frac{q}{\sqrt{q_2}} + \frac{q_2}{4} + \frac{q_3}{4}\right]$$





$$V_p = k\left(\frac{q_1}{r_1} + \frac{q_2}{r_2} + \frac{q_3}{r_3}\right)$$

$$V_b - V_a = k\, q\left[\frac{1}{P_b} - \frac{1}{P_a}\right] = 0$$

$$= k\left(\frac{5}{8} + \frac{5}{8} + \frac{-4}{\sqrt{128}}\right) \rightarrow \text{dari pytagoras } \sqrt{8^2+8^2}$$

$$V_b = V_a = k\frac{Q}{R}$$

$$= k\left(\frac{5}{8} + \frac{5}{8} + \frac{-4}{11{,}3}\right)$$

ASOS PO 10

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$$V = -\int \vec{E} \cdot d\vec{p} = -\int \frac{a}{2\pi\epsilon_0 p}\, dp = -\frac{\lambda}{2\pi\epsilon_0}\int_{-\infty}^{\infty} \frac{1}{p}\, dp$$

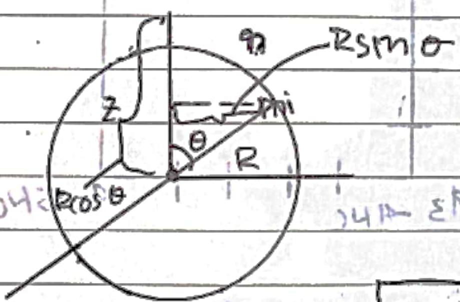
$$= -\int \vec{E} \cdot d\vec{p}$$

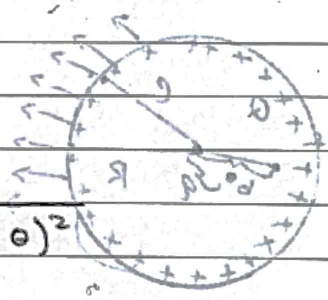
$$\vec{E} = \frac{\lambda}{2\pi\epsilon_0 p}$$

$$V = k\frac{q}{p}$$

$$V = k\int \frac{\sigma da}{p}$$

$$= k\int \frac{dq}{p} \longrightarrow \sigma \cdot a$$





$$r = \sqrt{(R\sin\theta)^2 + (z - R\cos\theta)^2}$$

$$r = \sqrt{R^2 + z^2 - 2Rz\cos\theta}$$

$$V = \frac{1}{4\pi\epsilon_0}\int_0^{2\pi}\int_0^{\pi} \frac{\sigma da}{p}$$

$$= \frac{1\sigma}{4\pi\epsilon_0}\int_0^{2\pi}\int_0^{\pi} \frac{p^2 \sin\theta\, d\theta\, d\phi}{(R^2 + z^2 - 2Rz\cos\theta)^{1/2}}$$

$$= \frac{2\pi\sigma}{4\pi\epsilon_0}\int_0^{\pi} \frac{\sin\theta\, d\theta}{(R^2 + z^2 - 2Rz\cos\theta)^{1/2}}$$

Dipindai dengan CamScanner