

No.

Jumat, 14 Feb - 2025

Date

Part 2

Keterlambatan 15 mnt

5 mnt tertambat berpindah b. inggit

Materi

1. Analisis Vektor

2. Elektrostatika

3. Teknik khusus Menentukan potensial

4. Medan elektrostatika didalam bahan

5. Magnetostatika

6. Divergensi dan curl untuk Medan Magnet &

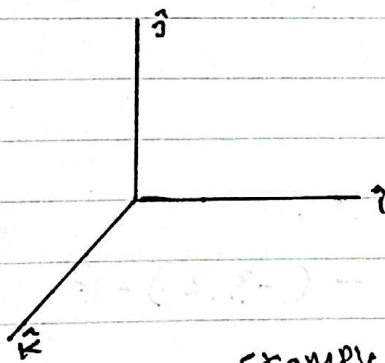
7. Magnetostatika dalam bahan

8. Elektrodinamika

9. Gelombang elektrodinamika

$$\vec{X} = x_1 \hat{i}, x_2 \hat{j}, x_3 \hat{k}$$

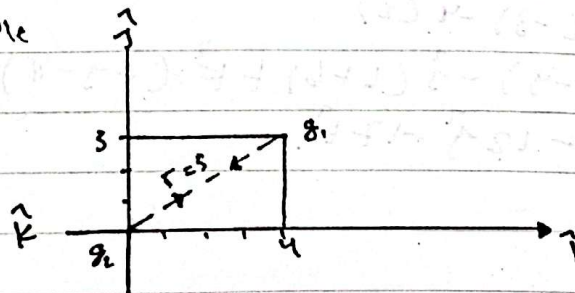
$$\vec{Y} = y_1 \hat{i}, y_2 \hat{j}, y_3 \hat{k}$$



$$\hat{r} = \frac{\vec{r}}{|\vec{r}|} = \frac{x\hat{i} + y\hat{j} + z\hat{k}}{\sqrt{x^2 + y^2 + z^2}}$$

example

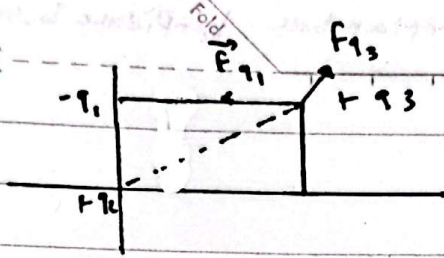
$$\begin{vmatrix} \hat{i}, \hat{i} \\ \hat{j}, \hat{j} \\ \hat{k}, \hat{k} \\ \hat{i}, \hat{i} \end{vmatrix} = 1$$



$$\vec{F}_{12} = K \frac{q_1 q_2}{r^2} \hat{r}$$

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

Kelas da



$$F_{13} = k \cdot r_3 \left(\frac{a_1 - 1}{4^2} + \frac{q_2}{5^2} \right) \frac{(47+37)}{5}$$

$$\vec{u}_1 = 4\hat{i} + 2\hat{j} + \hat{k}$$

$$\vec{v}_2 = 2\hat{i} + 3\hat{k}$$

$$\vec{u}_1 \cdot \vec{u}_2 = 4 \cdot 2 \hat{i} \cdot \hat{i} + 2 \cdot 0 \hat{j} + 1 \cdot 3 \hat{k} \cdot \hat{k} = 8 + 0 + 3 = 11$$

$$\vec{a} = 3\hat{i} + 4\hat{j} - 3\hat{k}$$

$$\vec{b} = 2\hat{i} - 3\hat{j} - 2\hat{k}$$

$$\vec{a} \cdot \vec{a} = 9 + 16 + 9 = 34$$

+ C dari kali)

$$\begin{aligned} \vec{a} \times \vec{b} &= 3 \cdot 2 \hat{i} \hat{i} + 4(-3) \hat{j} \hat{j} + -3(2) \hat{k} \hat{k} \\ &= 6 \hat{i} \hat{i} + (-12) \hat{j} \hat{j} + (-6) \hat{k} \hat{k} = -12 \end{aligned}$$

$$\vec{a} \times \vec{b} = \begin{vmatrix} \hat{i} & \hat{j} & \hat{k} \\ 3 & 4 & -3 \\ 2 & -3 & 2 \end{vmatrix}$$

$$\begin{aligned} &= \hat{i} (4 \cdot 2 - (-3 \cdot (-3))) - \hat{j} (3 \cdot 2 - (-3 \cdot 2)) - \hat{k} (3 \cdot (-3) - 4 \cdot 2) \\ &= \hat{i} (8 - 9) - \hat{j} (6 + 6) + \hat{k} (-9 - 8) \\ &= -\hat{i} - 12\hat{j} - 17\hat{k} \end{aligned}$$