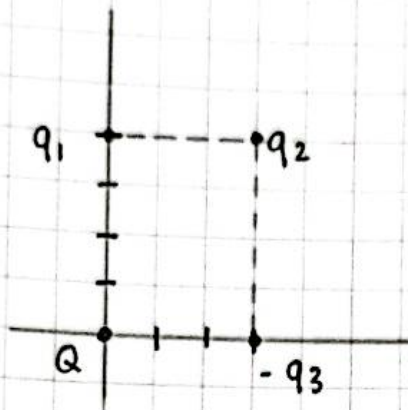


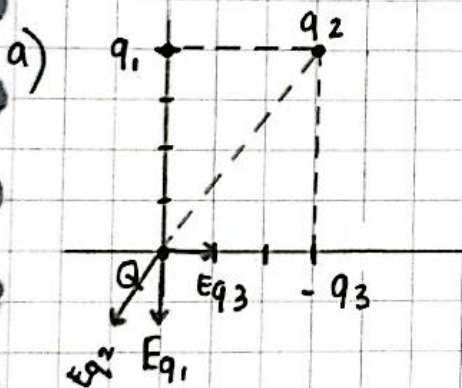
KALISMA.

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Kelas : 23 A



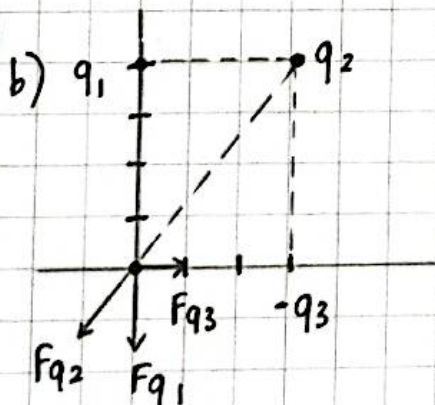
- Hitung medan listrik di titik (0,0)
- Hitung gaya listrik di titik (0,0)
- Hitung potensial listrik di titik (0,0)
- Hitung usaha untuk memindahkan ke 4 muatan tersebut

Jawab :



$$E_Q = k \left[\frac{q_1}{4^2} (-\hat{j}) + \frac{q_2}{5^2} \left(\frac{-3\hat{i} - 4\hat{j}}{5} \right) + \frac{q_3}{3^2} (\hat{i}) \right]$$

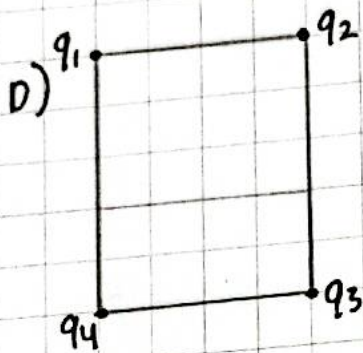
$$= k \left[(-\hat{j}) \left(\frac{q_1}{4^2} \right) + \frac{q_2}{3^2} \left(\frac{q_2}{5^2} - \frac{4}{5} \right) + \hat{j} \left(\left(\frac{q_1}{4^2} \right) \frac{q_2}{5^2} - \frac{4}{5} \right) \right]$$



$$F_Q = kQ \left[\frac{q_1}{4^2} (-\hat{j}) + \frac{q_2}{5^2} \left(\frac{-3\hat{i} - 4\hat{j}}{5} \right) + \frac{q_3}{3^2} (\hat{i}) \right]$$

$$= kQ \left[\hat{i} \frac{q_3}{3^2} \left(\frac{q_2}{5^2} - \frac{3}{5} \right) - \hat{j} \frac{q_1}{4^2} \left(\frac{q_2}{5^2} - \frac{4}{5} \right) \right]$$

$$c) V_p = k \left(\frac{q_1}{4} - \frac{q_2}{5} - \frac{q_3}{3} \right)$$



$$W_1 = 0$$

$$W_2 = V_1 \cdot q_2$$

$$= k \frac{q_1 q_2}{3}$$

$$W_3 = V_1 \cdot q_3 + V_2 \cdot q_3$$

$$= k \frac{q_1 q_3}{5} + k \frac{q_2 q_3}{4}$$

$$W_4 = V_1 \cdot q_4 + V_2 \cdot q_3 + V_3 \cdot q_4$$

$$= k \frac{q_1 q_2}{5} + k \frac{q_2 q_3}{4} + k \frac{q_1 q_4}{3}$$