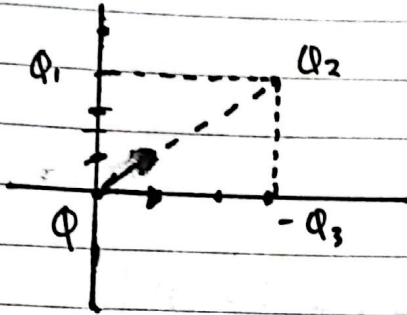


QUIZ

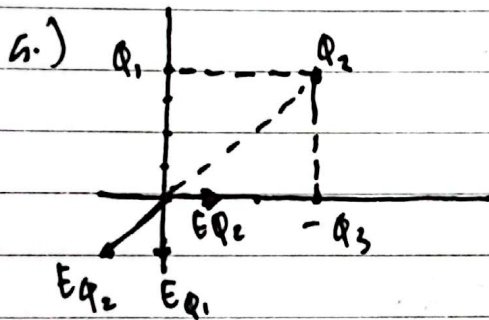
NAMA = YOLA FLARENZA

NPM = 2313022064



- 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 medan tsb !

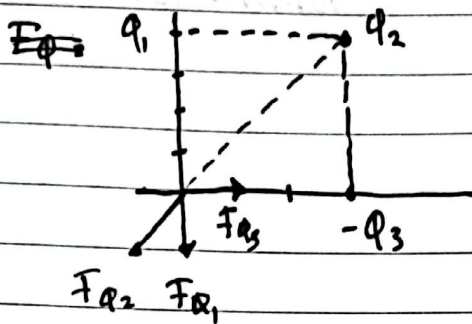
Jawab :



$$E_Q = k \left[\frac{Q_1}{4^2} (-\hat{j}) + \frac{Q_2}{5^2} \left(-\frac{3}{5}\hat{i} - \frac{4}{5}\hat{j} \right) + \frac{Q_3}{3^2} (\hat{i}) \right]$$

$$E_Q = k \left[(-1) \left(\frac{Q_1^2}{5^2} - \frac{3}{5} \right) + \frac{Q_2^2}{3^2} \right] + j \left(\frac{Q_1}{4^2} \right) \frac{Q_2^2}{5^2} - \frac{4}{5}$$

b.) gaya listrik:

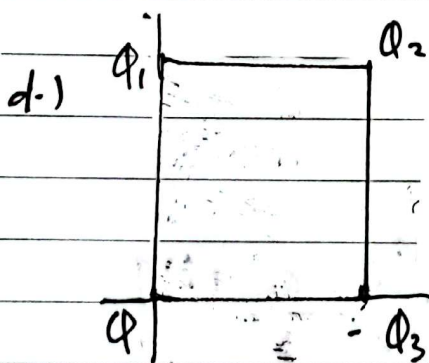


$$F_Q = kQ \left[\left(\frac{Q_1}{4^2} (-\hat{j}) \right) + \frac{Q_2}{5^2} \left(\frac{3\hat{i} - 4\hat{j}}{5} \right) + \frac{Q_3}{3^2} (\hat{i}) \right]$$

$$= kQ \left[\hat{i} \frac{Q_3}{3^2} + \left(\frac{Q_2}{5^2} \frac{3}{5} - \hat{j} \frac{Q_1}{4^2} \left(\frac{Q_2}{5^2} - \frac{4}{5} \right) \right) \right]$$

c.) Potensial.

$$V_p = k \left[\frac{Q_1}{4} + \frac{Q_2}{5} - \frac{Q_3}{3} \right]$$



$$W_1 = 0$$

$$W_2 = V_1 \cdot Q_2$$

$$= k \frac{Q_1 Q_2}{5}$$

$$W_3 = V_1 \cdot Q_3 + V_2 Q_3$$

$$= k \frac{Q_1 Q_3}{5} + k \frac{Q_2 Q_3}{4}$$