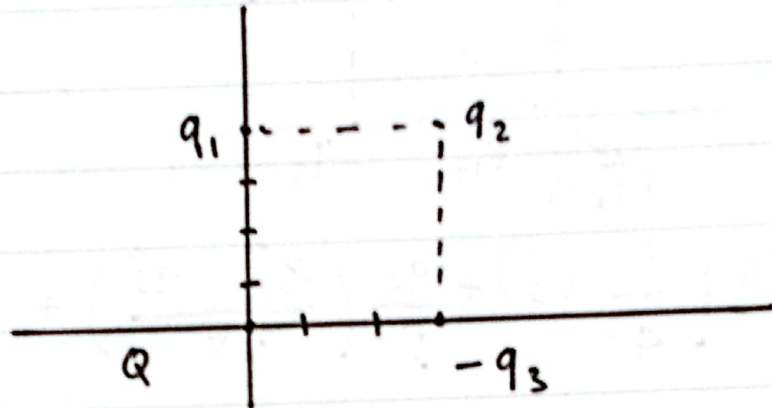


NAMA = AMELIA PUTRI JOVITA
NPM = 2313027013
KELAS = 23 A
MATEKUL = kelistrikan dan magnetan

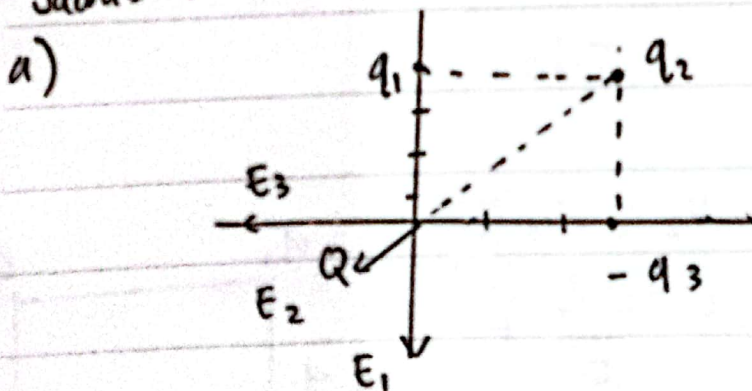
Quiz 1

Soal.



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

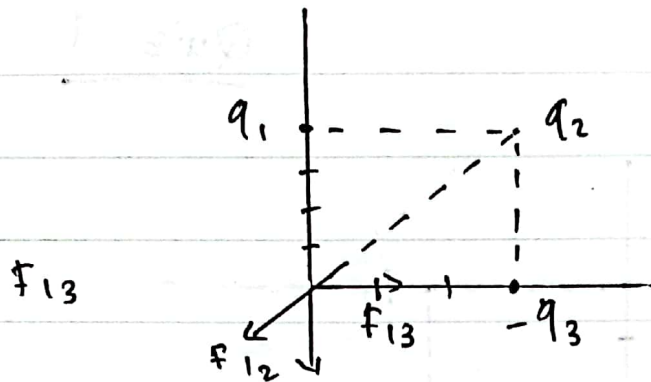
Jawab :



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

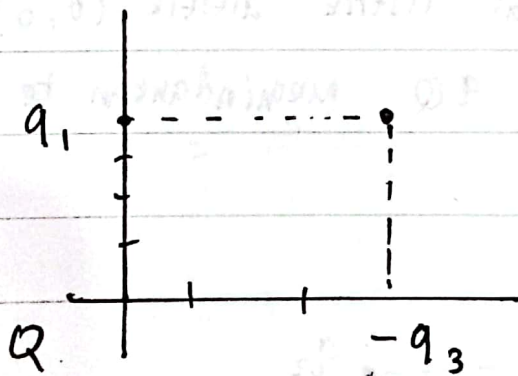
$$\vec{E} \cdot Q = k \left[(-\hat{i}) \left(\frac{q_2}{5^2} - \frac{3}{5} \right) + \frac{q_3}{3^2} \right] + \hat{j} \left[\left(\frac{q_1}{4^2} \right) \frac{q_2}{5^2} - \frac{4}{5} \right]$$

b)



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

$$c) V_P = k \left[\frac{q_1}{4} + \frac{q_2}{5} - \frac{q_3}{3} \right]$$



$$\begin{aligned} d) W_a &= V_1 Q + V_2 Q + V_3 Q \\ &= k \frac{q_1 Q}{4} + k \frac{q_2 Q}{5} + k \frac{q_3 Q}{3} \end{aligned}$$

