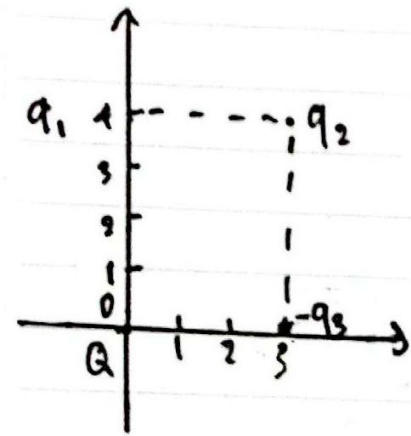
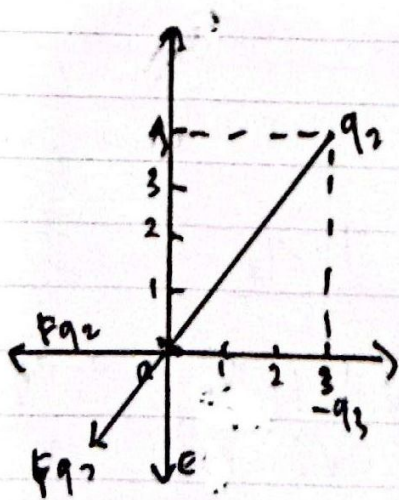


Latihan :



1. Hitung medan listrik di titik (0,0)
2. Hitung gaya listrik di titik (0,0)
3. Hitung potensial listrik di titik (0,0)
4. Hitung usaha Q memindahkan ke 4 muatan.

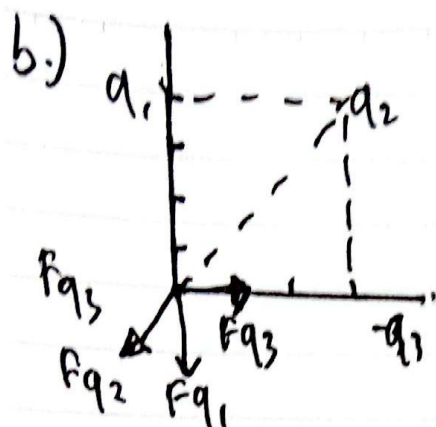
Jawab :



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

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

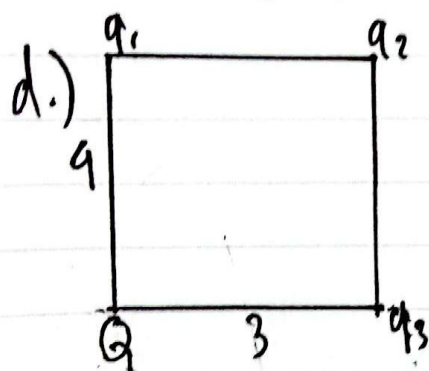
$$j \left[\left(\frac{q_1}{4^2} \right) \frac{4^2}{5^2} \frac{-4}{5} \right]$$



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

c.)

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



Hitung Waktu:

$$WQ = V_1 Q + V_2 Q + V_3 Q$$

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