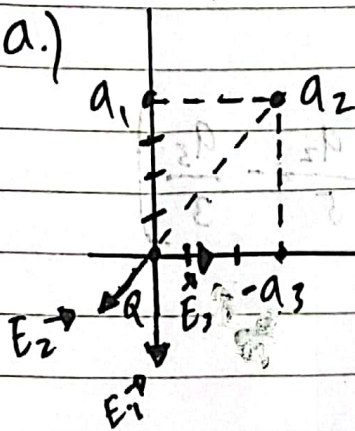


Medan Listrik

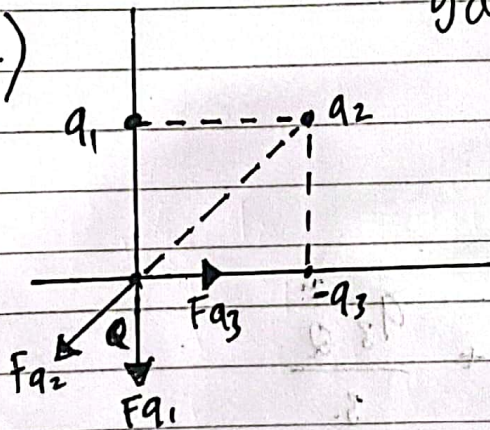
a.)



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

b.)

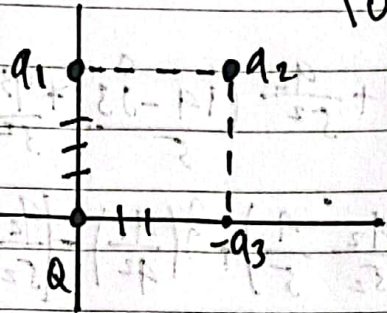
Gaya



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

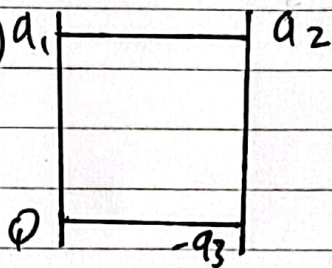
Potensial

c.)



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

d.)



$$W_Q = V_1 Q + V_2 Q + V_3 Q$$

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