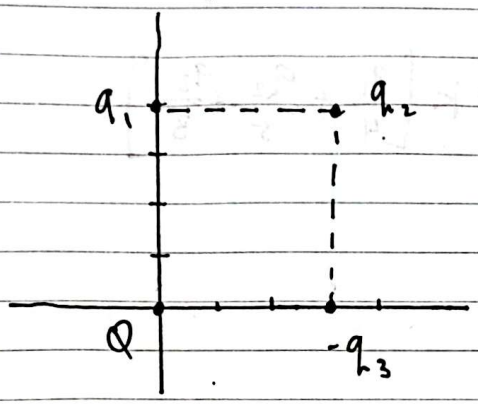
SYAEFI NURUL HHKMAH

NPM. 2313022069

No

Date



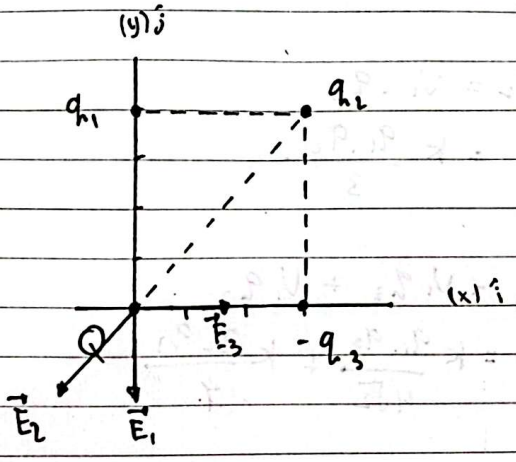
a) hitung medan listrik titik (0,0)

b) hitung gaya listrik titik (0,0)

c) hitung potensial listrik titik (0,0)

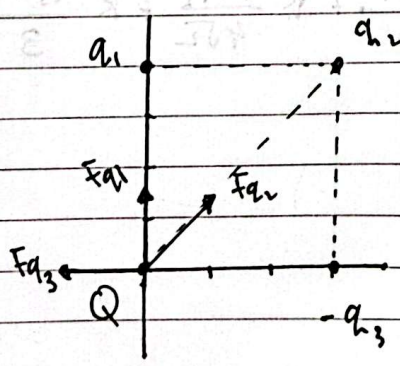
d) hitung usaha Q memindahkan ke 4 muatan tersebut.

a)



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

b)



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

$$= kQ\left[\hat{i}\left(\right.\right.$$

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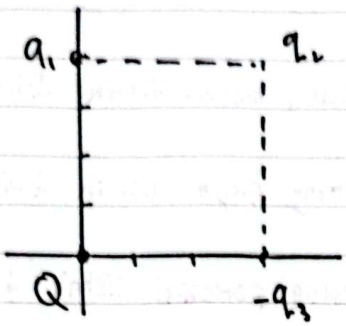
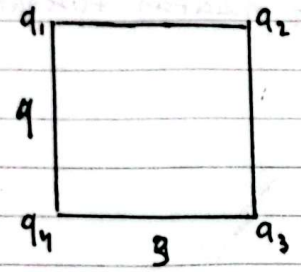
c)



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

d)



$$W_1 = 0$$

$$W_2 = V_1 \cdot q_2$$
$$= k\frac{q_1 \cdot q_2}{3}$$

$$W_3 = V_1 q_3 + V_1 q_3$$
$$= k\frac{q_1 \cdot q_3}{4\sqrt{2}} + k\frac{q_2 q_3}{4}$$

$$W_4 = V_1 q_4 + V_1 q_4 + V_1 q_4$$

$$= k\frac{q_1 q_4}{4} + k\frac{q_2 q_4}{4\sqrt{2}} + k\frac{q_3 \cdot q_4}{3}$$