Nama : Indah Sina Tyas

Npm : 2013022042

Kelistrikan dan kemagnetan

Pemecahan. Kalor muatan listrik

1. N = 0 jumlah atom

$$N = \frac{Na \times \text{massa (gr)}}{Mr}$$

$$N_{total} = \frac{Na \times \text{massa Ag}}{Mr\ Ag} + \frac{Na \times \text{massa Au}}{}$$

$$= \frac{6{,}02 \cdot 10^{23} \times 4{,}2}{107{,}9} + \frac{6{,}02 \cdot 10^{23} \times 0{,}8}{197}$$

$$= 2{,}34 \cdot 10^{22} + 2{,}44 \cdot 10^{21}$$

$$= 2{,}58 \cdot 10^{22}$$

Muatan total (Q)

Karna Ag punya 47 elektron dan Au 79 elektron, maka elektron atom trb 126 elektron.

$$Q = N \times \text{jumlah elektron} \times e$$

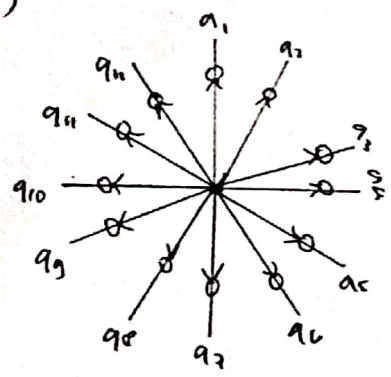
$$= 2{,}58 \cdot 10^{22} \times 126 \times 1{,}6 \cdot 10^{-19}$$

$$= 5{,}2 \cdot 10^{5} C$$

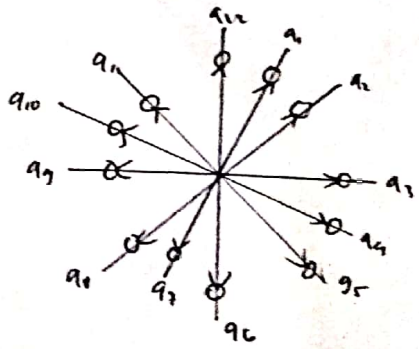
Jadi, pada cincin 5 gr terdapat muatan $5{,}2 \cdot 10^{5} C$ dimana pada cincin 5gr terdapat $\frac{5{,}2 \cdot 10^{5} C}{1{,}6 \cdot 10^{-19}} = 3{,}25 \cdot 10^{24}$ elektron

⇒ Kalor Gaya Listrik

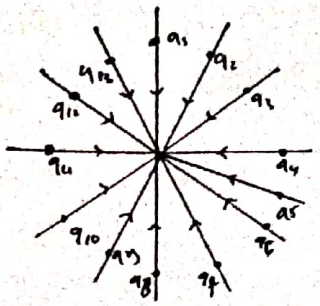
a)



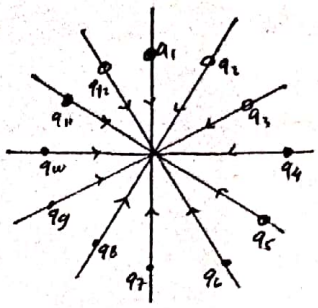
b)



c)



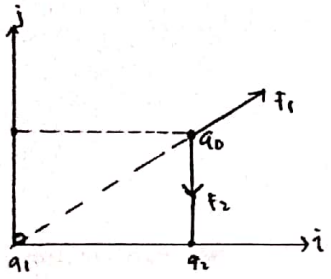
d)



e) $q_1 = 25\ \mu C \rightarrow (0,0)m$

$q_2 = -10\ \mu C \rightarrow (4,0)m$

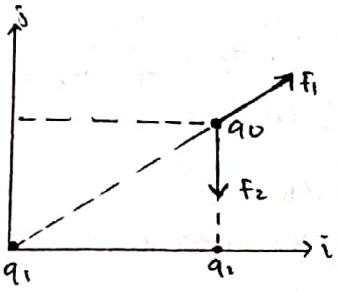
$q_0 = 10\ \mu C \rightarrow (4,3)m$



f) $q_1 = 25\ \mu C \rightarrow (0,0)$

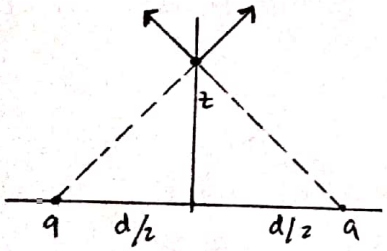
$q_2 = -15\ \mu C \rightarrow (4,0)$

$q_0 = 10\ \mu C \rightarrow (4,3)$



→ Kuat Medan Listrik

a)

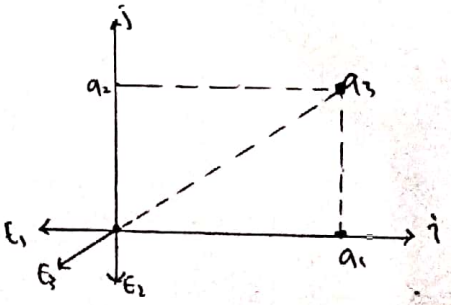


b) $q_1 = 2C \rightarrow (4,0)$

$q_2 = 5C \rightarrow (0,3)$

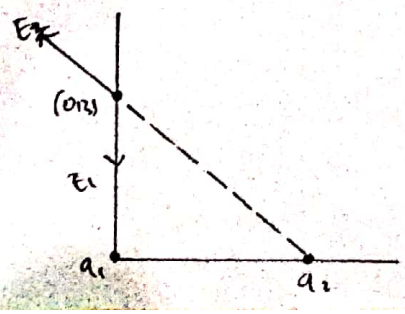
$q_3 = 10C \rightarrow (4,3)$

Medan Listrik

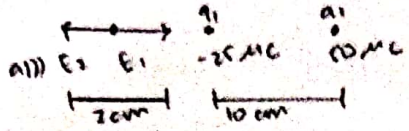


c) $q_1 = -5\ \mu C \rightarrow (0,0)$

$q_2 = 10\ \mu C \rightarrow (4,0)$



d)

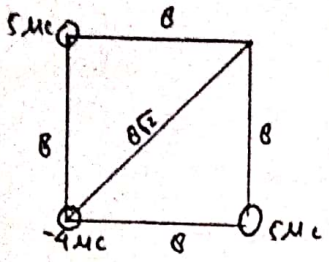


$q_1 = -25\,\mu C$

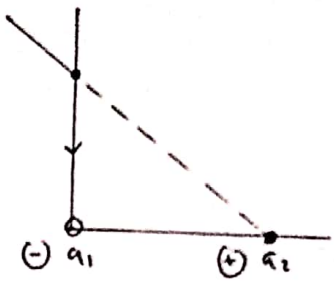
$q_2 = 10\,\mu C$

⇒ Potential Listrik

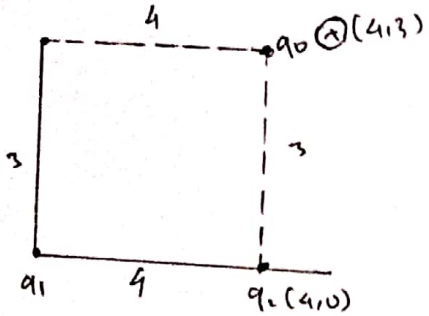
1.)



2)



3)



$q_1 = 25\,\mu C \rightarrow (0,0)$

$q_2 = -15\,\mu C \rightarrow (4,0)$

$q_0 = 20\,\mu C \rightarrow (4,3)$