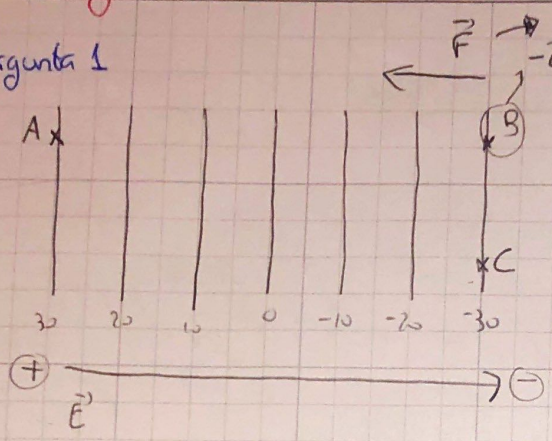
Teste Giga

Pergunta 1



$V_B - V_C = 0$

$V_B - V_A = -30 - 3 = -60$

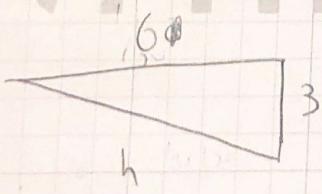
$F = q_0 E \Rightarrow F = -1000 \times -2 = 2000\ N$

$\Delta V = E d \Leftrightarrow \frac{\Delta V}{d} = E = E = \frac{-60}{0,06} = 1000$

Pergunta 2

$\Delta U = q \Delta V = q(v_f - v_i) = q(V_C - V_A) = 2((V_B - V_C) - (V_A - V_B)) =$

$= 2(0 - 60) = 120 \times 10^{-6} = 1,2 \times 10^{-4}$



$h = \sqrt{6^2 + 3^2} = 6,7$

Pergunta 3

$q = -5\mu C$

Paralela

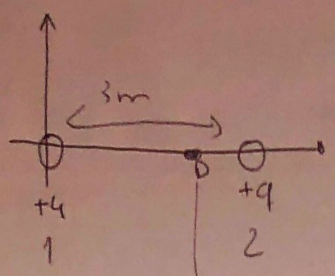
Pergunta 4

A = 2

$r^2 \times \frac{E}{k} = 0 \Leftrightarrow \frac{4 \times 4,5 \times 10^9}{5 \times 10^5} = 2$

B também

Pergunta 5



A: V

B: F

C: F

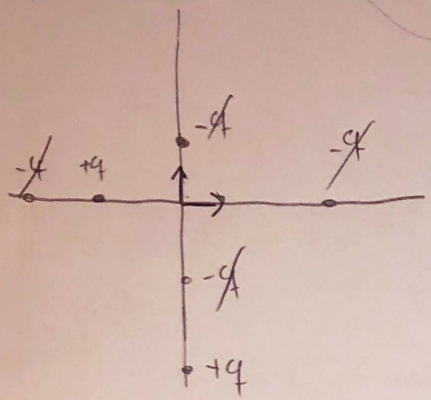
D: V

Ponto mais perto da carga com maior módulo mais a intensidade

$F_{13} = F_{23}$

$\frac{K q_1 q}{r_{13}^2} = \frac{K q q_2}{r_{23}^2}$ $\quad 4 r_{23} = r_{13}$

Pergunta 6



$E = E_{total} + E_{total}$

$E_0 = K \frac{|-q|}{r^2} \cos\theta + K \frac{|-q|}{r^2} \cos 90$

$= 9 \times 10^9 - \left(\frac{-1}{1}\right) = -9 \times 10^9$ i

$E_4 = 9 \times 10^9 \times \frac{|-2|}{1} \operatorname{sen} 90$

$= 180 \times 10^9$ j

$(-9000\,i + 180000\,j)$ N/C

Pergunta 7

1 → 7×10^9

2 → -6×10^9

3 → 0

4 → -4×10^5

4, 3, 1

$V_p = K \Sigma \frac{q_i}{r} \Leftrightarrow 0 = \frac{K q_1}{r_1} + \frac{K q_2}{r_2}$

$= -\frac{K q_1}{r_1} = \frac{K q_2}{r_2}$

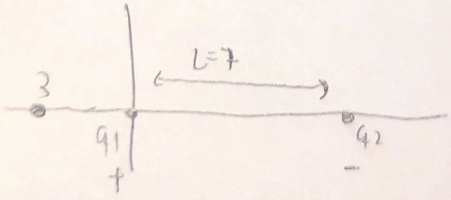
$= \frac{1}{4} = \frac{3}{(4+7)}$

$= 4 + 7 = 3 \Leftrightarrow 4 = -3,5$

Pergunta 8

$q_1 = q$

$q_2 = -3q$



$F_{31} = F_{32} \Leftrightarrow K \frac{q_3 q_1}{d^2} = K \frac{q_3 q_2}{(7+d)^2} \Leftrightarrow \frac{1}{d^2} = \frac{3}{(7+d)^2} \Leftrightarrow (7+d)^2 = 3d^2$

$d = -9,5$

Pergunta 9

$C = \frac{\varepsilon_0 A}{d} \Rightarrow A = \frac{2 \times 0{,}010}{9 \times 10^9} = 22{,}6$

A

1 — 11,3

2 — 0

$q = 22{,}6$

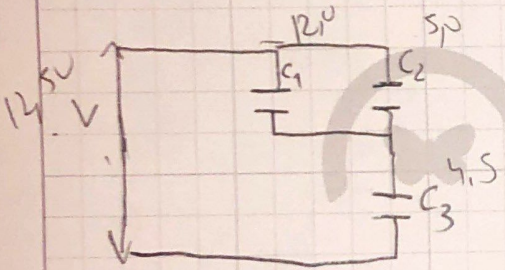
B:

1 — 100

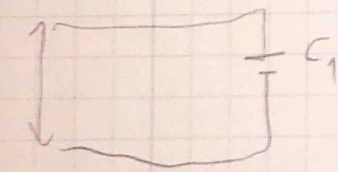
3 — q

$v = 300$

Pergunta 10



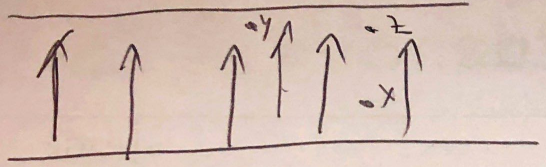
$q = CV = 4{,}5 \times 12{,}5 =$



$C_{123} \Rightarrow \frac{C_{12} \times C_3}{C_{12} + C_3} = \frac{17 \times 4{,}5}{21{,}5} = 3{,}6$

$q_{123} = 3{,}6 \times 12{,}5 = 45$

Pergunta 11



A F

B ✓

C V

D V