

Lista 1 - Carga Elétrica e Campo Elétrico

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1. $Q = meN_A/\mu$

2. $F = \frac{(1 + 2\sqrt{2})kq^2}{2L^2}$

3. $F = \frac{3kqQ}{a^2}$ na direção do centro do triângulo para a carga $3q$.

4. $q_1 = q_2 = Q/2$

5. Mostre!

6. $\vec{E} = k \frac{Qz}{(z^2 + R^2)^{3/2}} \hat{z}$

7. $\vec{E} = k \frac{Qz}{(z^2 + R^2)^{3/2}} \hat{z}$, mesmo resultado do anterior.

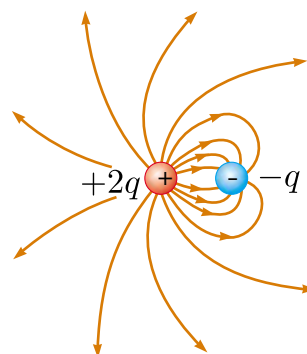
8. $\lambda_0 = \frac{Q}{2R}$, $\vec{E} = -k \frac{Q\pi}{4R^2} \hat{y}$ e $\vec{F} = -k \frac{qQ\pi}{4R^2} \hat{y}$

9. $E = k \frac{2Q}{y\sqrt{L^2 + 4y^2}}$

10. $\vec{E} = k \frac{4\lambda Ld}{((L/2)^2 + d^2)(2(L/2)^2 + d^2)^{1/2}} \hat{z}$

11. $E = k \frac{Q}{2R^2}$

12. Linhas de Campo:



13. $\vec{v}(t) = \vec{v}_0 + \frac{e}{m} \vec{E}t$ e
 $\vec{r}(t) = \vec{r}_0 + \vec{v}_0t + \frac{1}{2} \frac{e}{m} \vec{E}t^2$