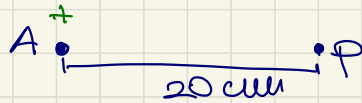


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$$q_A = ?$$



20 cm

$$V(P) = 200 \text{ V}$$

$$\Delta V = \frac{\Delta U}{q} \rightarrow \text{carica al punto}$$

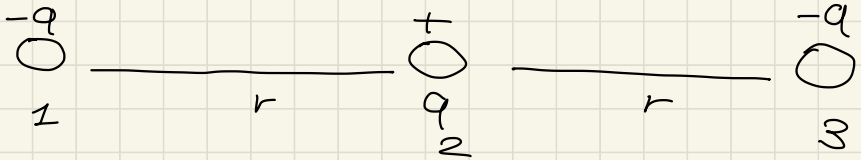
~~$$U = q E y \rightarrow \text{NO PERCHÉ -}$$~~
~~$$\text{SI VUOLGESSE IL PIANO } \infty$$~~

$$U = \frac{q_A \cdot Q_P}{4\pi\epsilon r} \longrightarrow V = \frac{U}{Q_P}$$

$$V = \frac{q_A \cdot Q_P}{4\pi\epsilon r Q_P} \longrightarrow q_A = V \cdot 4\pi\epsilon r$$

{

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$$r = 4,4 \text{ cm}$$

$$q = 4,6 \cdot 10^{-12} \text{ C}$$

$$U = ?$$

$$U = \frac{k_0 q_1 q_2}{d}$$

$$U_{\text{TOT}} = U_{12} + U_{23} + U_{13}$$

$$U_{12} = \frac{k_0 q_1 q_2}{r}$$

$$U_{23} = \frac{k_0 q_2 q_3}{r}$$

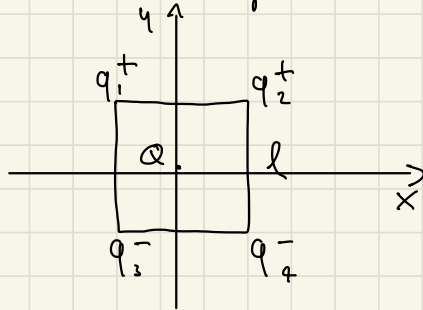
$$U_{31} = \frac{k_0 q_1 q_3}{r}$$

2r

$$U_{\text{tot}} = \frac{k_0}{r} \left(-q \cdot q + q \cdot (-q) + \frac{q}{2} (-q) \right)$$

$$U_{\text{tot}} = \frac{k_0}{r} \left(-2q^2 + \frac{q^2}{2} \right)$$

$$U_{\text{tot}} = \frac{k_0}{r} \left(-\frac{3q^2}{2} \right)$$



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 q_p

$$q_m = -q_p$$

$$U_1 = \frac{q_1 \cdot Q}{4\pi\epsilon r}$$

$$U_2 = \frac{q_2 \cdot Q}{4\pi\epsilon r}$$

$$U_3 = \frac{-q_3 \cdot Q}{4\pi\epsilon r}$$

$$U_4 = \frac{-q_4 \cdot Q}{4\pi\epsilon r}$$

$$d = l\sqrt{2}$$

$$\frac{d}{2} = \frac{l\sqrt{2}}{2} = r$$

$$V_1 = \frac{U}{Q} = \frac{q_1}{4\pi\epsilon r}$$

$$V_1 + V_3 = 0$$

$$V_{\text{tot}} = 2V_1 + 2V_3 = 0$$