

Electrostatics FRQ 2

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3. Where p^{8+} is the +8 charge and e^{6-} is the -6 charge and p_2^8 is the second +8 charge
(1)

$$\begin{aligned} E_{p^{8+}} &= k \frac{8 \cdot 10^{-9}}{10^2} \\ &= .72 \left[\frac{\text{N}}{\text{C}} \right] \\ E_{e^{6-}} &= k \frac{6 \cdot 10^{-9}}{3^2} \\ &= 6 \left[\frac{\text{N}}{\text{C}} \right] \\ E_{p_2^8} &= k \frac{8 \cdot 10^{-9}}{3^2} \\ &= 8 \left[\frac{\text{N}}{\text{C}} \right] \\ E_{total} &= 8 + 6 - .72 \\ &= 13.28 \left[\frac{\text{N}}{\text{C}} \right] \text{ left} \end{aligned} \tag{1}$$