PAG. 1025 N 20

$Q = 7,4\ mC = 7,4 \times 10^{-9}\ C$ $\qquad m = ?$

$d = 0,50\ m$

$$k_0 \frac{Q^2}{\cancel{d^2}} = G \frac{m^2}{\cancel{d^2}}$$

$$m = \sqrt{\frac{k_0 Q^2}{G}} = \sqrt{\frac{8,988 \times 10^9 \cdot (7,4)^2 \times 10^{-18}}{6,67 \times 10^{-11}}}\ kg =$$

$$\cong 86\ kg$$

N 27

$Q_A = 2{,}5\ mC$

$Q_B = 6{,}3\ mC$

$r = 0{,}54\ m$

PRIMA

$$F_1 = k_0 \frac{Q_A Q_B}{r^2} = \frac{k_0}{r^2} Q_A Q_B$$

DOPO

$$Q = \frac{Q_A + Q_B}{2}$$

$$F_2 = \frac{k_0}{r^2} \frac{(Q_A + Q_B)^2}{4}$$

$$\frac{F_2 - F_1}{F_1} \cdot 100 = \left(\frac{F_2}{F_1} - 1 \right) \cdot 100 =$$

$$= \left(\frac{(Q_A + Q_B)^2}{4 Q_A Q_B} - 1 \right) \cdot 100 \cong 23\ \%$$


Q1
Q2
Q3