

# Práctica calificada de Electrostatica

$$1) \begin{array}{l} F_{32} = 9 \times 10^9 \frac{2 \times 2}{2^2} \\ F_{32} = 9 \times 10^9 \\ F_{23} = K \end{array} \quad \begin{array}{l} F_{12} = 9 \times 10^9 \frac{2 \times 2}{1} \\ F_{12} = 4(9 \times 10^9) \\ F_{12} = 4K \end{array} \quad \begin{array}{l} 4K - K \\ \boxed{3K} \end{array}$$

2)

3)

4)

3)

$$4) \begin{array}{l} F_1 = 9 \times 10^9 \frac{2.0 \cdot 10^{-6} \cdot 10 \cdot 10^{-6}}{(30)^2} \\ F = 9 \times 2 \times 10^2 \times 10^{-3} \\ F = \frac{1.8}{0.09} \\ \boxed{F = 2N} \end{array}$$

5)

$$\begin{aligned} 6) \quad \frac{k \times 4q \times q}{x^2} &= \frac{k \times q \times q}{y^2} \\ \frac{y^2}{x^2} &= \frac{q}{4} \\ \frac{y}{x} &= \frac{3}{2} \end{aligned} \quad \begin{aligned} & \rightarrow X=2, Y=3 \\ & \boxed{X/Y = 2/3} \end{aligned}$$

7)

$$8) \quad 16 \mu\text{C} = 16 \times 10^{-6}$$

$$\frac{16 \times 10^{-6}}{1,6 \times 10^{-9}}$$

$$\boxed{10^{14}}$$

$$9). \quad F_{13} = \frac{9 \times 10^9 \times 10^{-4} \times 10^{-4}}{9} \quad \left| \quad F_{23} = \frac{9 \times 10^9 \times 10^{-4} \times 10^{-4}}{4} \right| \quad 22,5 - 10$$

$$F_{13} = 10 \quad \left| \quad F_{23} = 2,25 \times 10 \right| \quad \underline{12,5 \text{ N}}$$

$$\left| \quad F_{23} = 22,5 \right|$$

$$10). \quad q_1 = 60 \times 10^{-6}, \quad q_2 = 20 \times 10^{-6}$$

$$F = \frac{9 \times 10^9 \times 60 \times 10^{-6} \times 20 \times 10^{-6}}{(0,3)^2}$$

$$F = \frac{180 \times 60 \times 10^{-3}}{0,09}$$

$$F = \frac{180 \times 6 \times 10^{-2}}{9 \times 10^{-2}}$$

$$\underline{F = 120 \text{ N}}$$