



$$E_1 = \frac{Kq_1}{h^2}, \quad E_2 = \frac{Kq_2}{a^2}, \quad E_3 = \frac{Kq_3}{a^2}$$

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$$\left(\frac{5a}{4}\right)^2 = a^2 + h^2 \Rightarrow h = \frac{3a}{4}$$

$$E_x = E_2 - E_3, \quad E_y = -E_1$$

$$E_x = \frac{K}{a^2}(q_2 - q_3) = \frac{9 \cdot 10^9}{2^2}(72 - 36) \cdot 10^{-6} = 81,000 \text{ N/C}$$

$$E_y = \frac{-9 \cdot 10^9 \cdot 9 \cdot 10^{-6}}{\left(\frac{3a}{4}\right)^2} = -36,000 \text{ N/C}$$

$$\vec{E} = 81,000\hat{x} - 36,000\hat{y} \text{ N/C}$$