



$$E_T = E_B + E_A - E_C = 1,91 \cdot 10^{-5} \text{ N/C}$$

$$E_B = k_0 \frac{q}{r^2}$$

$$r = R \cos(30^\circ) = 1 \cdot \cos(30^\circ) = 0,87 \text{ cm} = 0,0087 \text{ m}$$

~~$$E_B = 8,99 \cdot 10^9 \cdot \frac{1,602 \cdot 10^{-19}}{(0,0087)^2} = 2,1 \cdot 10^{-5} \text{ N/C}$$~~

~~$$E_B = 8,99 \cdot 10^9 \cdot \frac{1,602 \cdot 10^{-19}}{(0,0087)^2} = 2,1 \cdot 10^{-5} \text{ N/C}$$~~

③

$$m_e = 9,109 \cdot 10^{-31} \text{ kg}$$

$$E = 3,5 \cdot 10^{-4} \text{ N/C}$$

$$E = \frac{\sigma}{\epsilon_0} = \frac{Q}{\epsilon_0 A} \quad \sigma = Q/A$$

$$Q = ?$$

$$q_e = 1,60 \cdot 10^{-19} \text{ C}$$

$$F = m \cdot a \quad F = q \cdot E$$

$$a = \frac{F}{m_e} = \frac{q \cdot E}{m_e} = \frac{1,60 \cdot 10^{-19} \cdot 3,5 \cdot 10^{-4}}{9,109 \cdot 10^{-31}} = 6,15 \cdot 10^7 \text{ m/s}^2$$

$$v_0 = ?$$

$$r = 5 \text{ mm} = 0,005 \text{ m}$$

~~$$v_F^2 = v_0^2 + 2as$$~~

$$v_F^2 = v_0^2 + 2as$$

$$v_F = 0$$

$$v_0^2 = +2as$$

$$v_0 = \sqrt{+2as} = \sqrt{2 \cdot 6,15 \cdot 10^7 \text{ m/s}^2 \cdot 0,005 \text{ m}} = \sqrt{615000 \text{ m}^2/\text{s}^2} = 786,2 \text{ m/s}$$

