

Find F_g on e^-

$$m = 9.11 \times 10^{-31} \text{ kg}$$

$$a = 9.8 \text{ m/s}^2$$

$$F_g = m \cdot a$$

$$= (9.11 \times 10^{-31} \text{ kg})(9.8 \text{ m/s}^2)$$

$$F_g = 8.93 \times 10^{-30} \text{ N}$$



$\ominus_2$

If $F_g = F_e$:

$$F_e = 8.93 \times 10^{-30} \text{ N}$$

$$q_1 = q_2 = 1.60 \times 10^{-19} \text{ C}$$

$$F_e = \frac{k_e \cdot |q_1| \cdot |q_2|}{r^2} \quad \text{so}$$

$$(8.93 \times 10^{-30} \text{ N}) = \frac{(9 \times 10^9 \text{ N} \cdot \text{m}^2/\text{C}^2)(1.6 \times 10^{-19} \text{ C})^2}{r^2}$$

$$(8.93 \times 10^{-30} \text{ N}) = \frac{(2.3 \times 10^{-28})}{r^2}$$

$$r = 5.08 \text{ m}$$