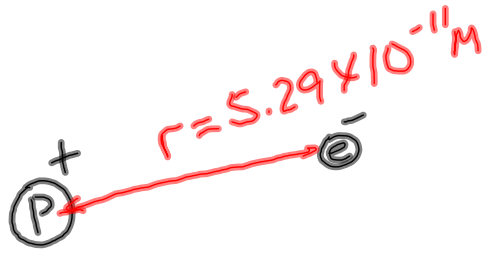


POD 27X - DUE 5.25.09

TEST ON THURSDAY 5.21.09 - MCAS TYPE

ELECTRICITY & MAGNETISM PROJECT DUE 6/1
(NOT OPTIONAL)

STUDY GUIDE HANDOUT & ON WEB.



$$m_p = 1.673 \times 10^{-27} \text{ kg}$$

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

$$F = G \frac{m_e m_p}{r^2} = \frac{(6.67 \times 10^{-11}) (1.673 \times 10^{-27}) (9.11 \times 10^{-31})}{(5.29 \times 10^{-11})^2}$$

101.48
27.98

$$= \frac{3.63 \times 10^{-58}}{10^{-11}} = 3.63 \times 10^{-47} \text{ N}$$

$$F = G \frac{m_e m_p}{r^2} = \frac{G}{(1)} \frac{m_e m_p}{r^2} = \frac{G m_e m_p}{(r)(r)}$$

$$\frac{3(2 \times 2)}{(2)^2} = \frac{3(\cancel{2} \times \cancel{2})}{(\cancel{2} \times \cancel{2})}$$

$$\frac{(6.67) \cancel{(10^{-11})} (1.673) \cancel{(10^{-27})} (9.11) \cancel{(10^{-31})}}{(\cancel{5.29} \cancel{(10^{-11})} \cancel{5.29} \cancel{(10^{-11})})}$$



$$F = k \frac{q_1 q_2}{r^2} = ?$$

$8.99 \times 10^9 \text{ (N}\cdot\text{m}^2\text{)} \cdot (5.29 \times 10^{-11})^2$

$1.6 \times 10^{-19} \text{ C}$

$$8.22 \times 10^{-30}$$

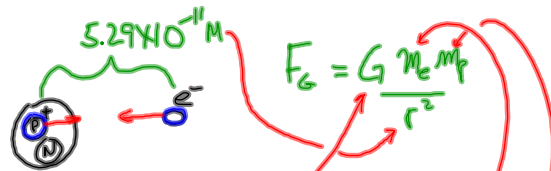
$$" \times 10^{-13}$$

$$\times 10^{-69}$$

$$8.22 \times 10^{-25}$$

$$= (0.822)(10^{-7}) \text{ N}$$

$$\frac{(+9)(-19)(-19)}{(-22)}$$



$$G = 6.67 \times 10^{-11} \frac{\text{N} \cdot \text{m}^2}{\text{kg}^2}$$

$$m_e = 9.1 \times 10^{-31} \text{ kg}$$

$$m_p = 1.673 \times 10^{-27} \text{ kg}$$

$$r = \frac{(3)(2)(2)}{(2)(2)} = \frac{(3)(2)(2)}{1(2)(2)}$$

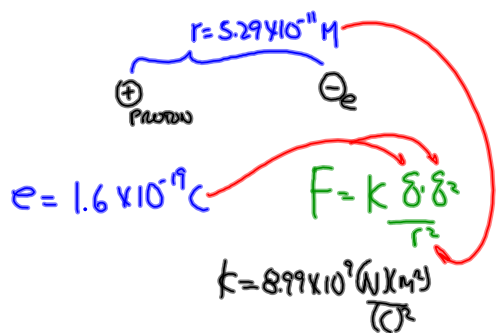
$$F = \frac{(6.67 \times 10^{-11})(1.673 \times 10^{-27})(9.11 \times 10^{-31})}{(5.29 \times 10^{-11})(5.29 \times 10^{-11})}$$

$$F = \frac{(101.66)(10^{-11})(10^{-27})(10^{-31})}{(27.98)(10^{-11})(10^{-11})}$$

$$= \frac{(3.63)(10^{-11})(10^{-27})(10^{-31})}{(10^{-11})(10^{-11})}$$

$$= \frac{(3.63 \times 10^{-58})}{(10^{-11})} = (3.63 \times 10^{-47}) \text{ N}$$

$$= (0.822)(10^{-7}) \text{ N}$$



$$F = \frac{(8.99 \times 10^9) (1.6 \times 10^{-19}) (1.6 \times 10^{-19})}{(5.29 \times 10^{-11}) (5.29 \times 10^{-11})}$$

$$F = \frac{(0.822) (10^9 \times 10^{-19} \times 10^{-19})}{(10^{-11}) (10^{-11})}$$

⁻²⁹

$$= (0.822) (10^{-7}) \text{ N}$$