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If the charge (-e) of and electron is always the same, and equal in magnitude to the (+) charge of a Hydrogen ion, then Thomson's result, that

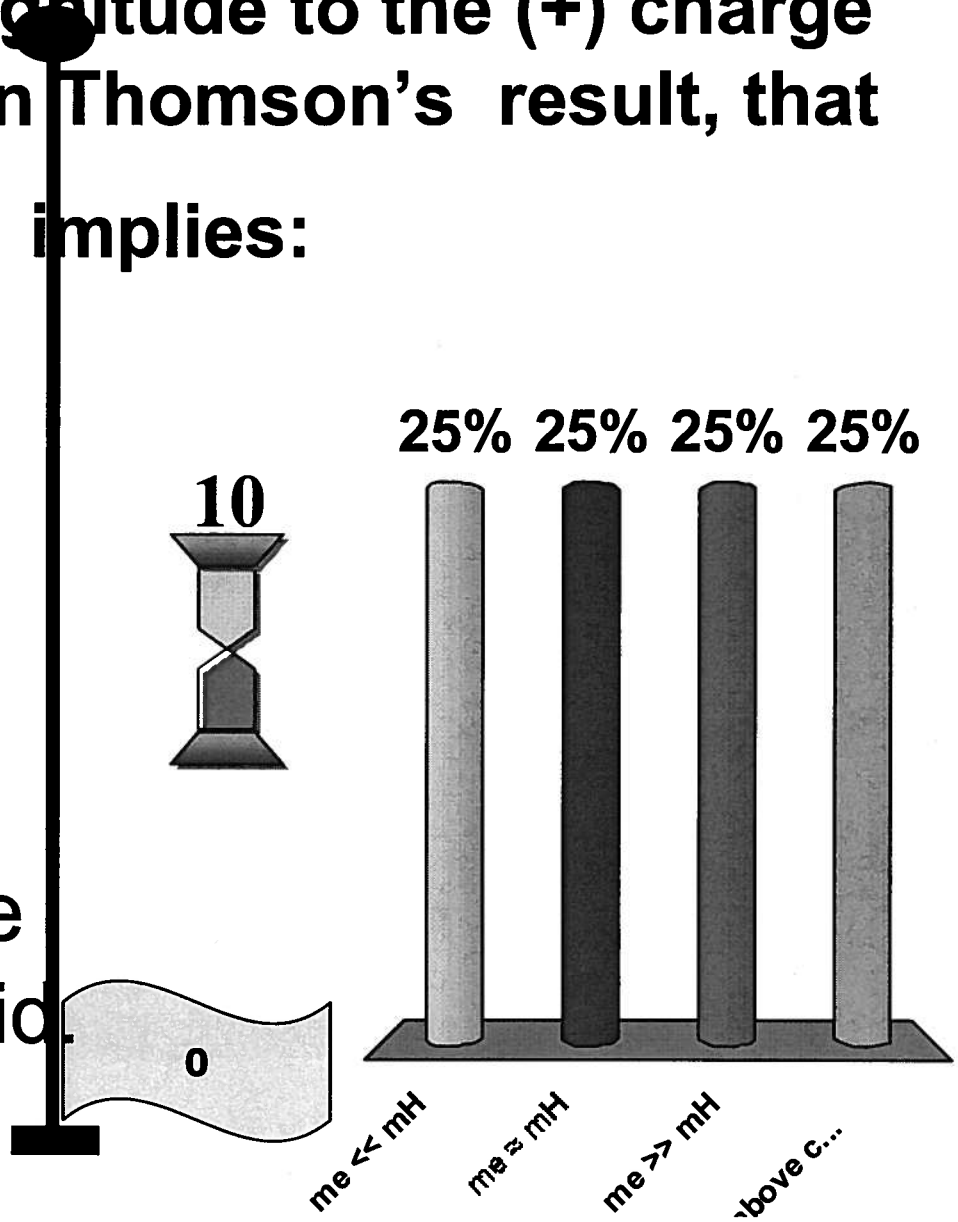
$e/m_e = 1800 * (q_{H+}/m_{H+})$, implies:

a) $m_e << m_H$

b) $m_e \approx m_H$

c) $m_e >> m_H$

d) None of the above conclusions is valid.



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Thomson's result implies that the electron mass, m_e, is much smaller than that of a Hydrogen ion, m_{H+} (= 1 A.M.U.); as follows.

- Consider Thomson's result:

  $$e/m_e = 1800*(q_{H+}/m_{H+}).$$

- Insert $q_H = e$, and rearrange to get
- $(m_e/ m_{H+}) = 1/1800$,
- So that $m_e = m_{H+}/1800 << m_{H+}$
- The correect answer is (a).