

PHYS 202      Spring 2002      Formula Sheet for Chapter 31

$$r \approx (1.2 \times 10^{-15} \text{ m})A^{1/3}$$

$$m_e = 9.109 \times 10^{-31} \text{ kg} = 5.485799 \times 10^{-4} \text{ u}$$

$$m_p = 1.673 \times 10^{-27} \text{ kg} = 1.007276 \text{ u}$$

$$m_n = 1.675 \times 10^{-27} \text{ kg} = 1.008665 \text{ u}$$

$$1 \text{ u} = 1.6605 \times 10^{-27} \text{ kg} = 931.5 \text{ MeV}$$

$$\Delta N/\Delta t = -\lambda N \quad 1 \text{ Ci} = 3.70 \times 10^{10} \text{ Bq} \quad N = N_0 e^{-\lambda t} \quad T_{1/2} = 0.693/\lambda$$

$$h = 6.63 \times 10^{-34} \text{ J}\cdot\text{s}$$

$$c = 3.00 \times 10^8 \text{ m/s}$$

$$1 \text{ eV} = 1.60 \times 10^{-19} \text{ J}$$