Griffiths.

5.1 (a) $1875.6 \approx 2k \approx$ rest energy of n, p.

$$1875.6 - 938.28 - 939.57 = \boxed{-2.25 \text{ MeV.}}$$

This is a small binding energy compared to rest mass, so the particle is nonrelativistic.

(b) $m_{eff} \cdot U = 310 \text{ MeV}$

    π^0 has mass of 135 MeV.

  $\Rightarrow$ the binding energy is $\cancel{too} = 135 - 620 = \boxed{-485 \text{ MeV.}}$

  This is large compared to the rest mass, so the particle is relativistic.