

9. We use Eq. 32-11:  $\mu_{\text{orb},z} = -m_l \mu_B$ .

(a) For  $m_l = 1$ ,  $\mu_{\text{orb},z} = -(1) (9.27 \times 10^{-24} \text{ J/T}) = -9.27 \times 10^{-24} \text{ J/T}$ .

(b) For  $m_l = -2$ ,  $\mu_{\text{orb},z} = -(-2) (9.27 \times 10^{-24} \text{ J/T}) = 1.85 \times 10^{-23} \text{ J/T}$ .