

PHYS 328

HOMEWORK #3

Due : 13 Sep. 2012

1. Text, problem 1.28
2. Text, problem 1.29
3. Text, problem 1.34, all parts. Five pts per part.
4. Text, problem 1.35
5. Text, problem 1.36, parts a) and c). Five pts per part.
6. Text, problem 1.40 both parts. Ten points per part.
7. In question 6, you calculated the lapse rate (dT/dz) for unsaturated air (meaning air that has not condensed). When water vapor condenses into the liquid phase, 2260 J of energy are released for each gram of water vapor that condenses. Predict whether the lapse rate for a parcel of air that has saturated (formed clouds) will have a greater, lesser or equal magnitude than the lapse rate you calculated for dry (unsaturated air). Explain your prediction.