

ATMS301 Homework #8
Due: Wednesday 7 December 2011

NAME: _____

Directions: Answer questions on a separate sheet of paper, except for problem 3. Total possible points are given after each question.

- 1) The winds near the core of a hurricane are observed to be cyclonic at 50 m/s at 850 mb and anticyclonic at 10 m/s at 200 mb. Using graphical vector methods, determine the vector thermal wind to the north, south, east, and west of the hurricane center. Locate warm air relative to cold air. Do both Northern and Southern Hemisphere cases. (4)
- 2) What assumptions did you make in answering question (1)? Explain whether these assumptions are reasonable or not for the given circumstance. (2)
- 3) In the following diagrams: (a) solve for the missing element among V_T , V_L , and V_U , which are the vector thermal, upper-level, and lower level winds, respectively; and (b) draw (and label!) two mean isotherms in the layer. (4)

