

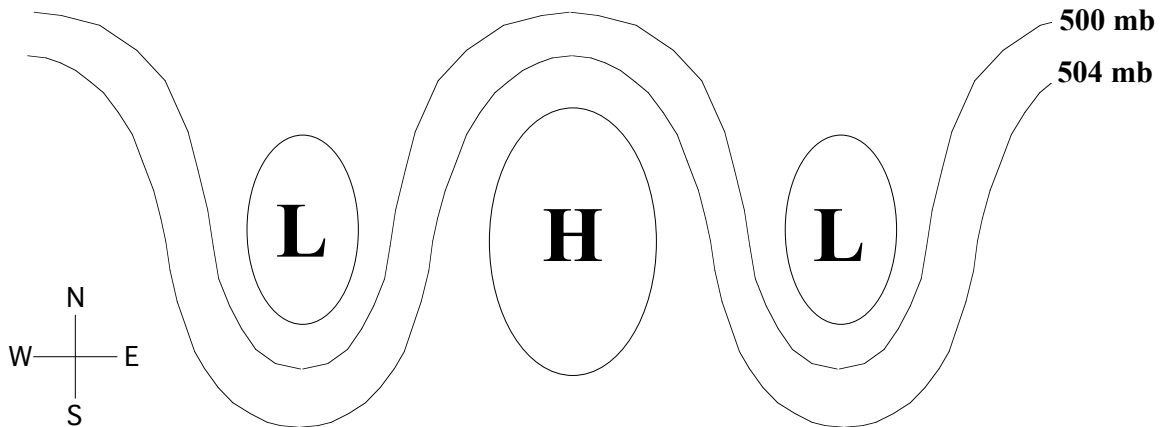
AOS 100/101  
Spring 2017

**HOMEWORK #7**  
(Due Wed. May 4)

*Please provide concise, grammatically correct, neatly written answers to the following questions. All questions can be answered in, at most, a few sentences. Don't forget to write your name on the paper!!!*

**NAME:**

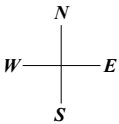
- 1) The diagram below shows the isobars at 5.4 km above sea-level. The following questions relate to this diagram.



- (a) Mark the locations of the trough axes with a solid line (2.5 pts)
- (b) Mark the location of the ridge axis with a dashed line. (2.5 pts)
- (c) Indicate the location(s) of the most negative vorticity with X's. (5 pts)
- (d) Where will the surface anticyclone(s) likely be located? Explain your answer with reference to vorticity advection and its relationship to vertical motion. (10 pts)

- 2) The diagram below represents a sequence of surface cyclones and anticyclones in the Northern Hemisphere.

L H L H



- (a) Draw the circulation associated with each region of High and Low pressure.  
(5 pts)

(b) We refer to east/west winds as *zonal* winds and north/south winds as *meridional* winds. By concentrating on the *meridional* winds between adjacent highs and lows, explain how this train of extratropical weather systems helps alleviate the energy surplus/deficit condition we discussed with respect to Fig. 2.10 in the book.

(15 pts)