1. The SLP chart below is figure 9.34 from the textbook.

Using the figure, please answer parts (a) through (e) of problem 2 on page 246.

2. An airplane with a pressure altimeter takes off from Madison and flies due east to Boston. The airplane ascends until it reaches a height of 500mb, after which the pilot flies so that the altimeter displays a constant altitude. Even though the pressure altimeter shows a constant altitude, observers on the ground note that the plane is descending as it moves eastward.
   
   a. Would you expect the air temperature to be warmer in Boston than in Madison, or colder? Why?

   b. Observers on the ground also note that the airplane is blown off course by a sidewind. Is the plane blown off course to the north or to the south? Explain.

3. The distance from the center of the earth to any point on the equator is about 6370km. What is solid body rotational speed of the earth’s surface at the equator? Give your answer in meters per second, then use the conversion 1 meter per second = 2.25 miles per hour to state the answer in mph (note: there are 86,400 seconds in a day).

Homework is due at the beginning of class. Please explain your answers and show all work.