

Name: \_\_\_\_\_ Period: \_\_\_\_\_ Date: \_\_\_\_\_

# Mapping Isotherms and Isobars

## Part I: Pre-Lab questions

- (1) When you look at a weather map, what do the colors red and blue usually represent?
- (2) On a weather map, what does a big **H** mean? What about a big **L**?
- (3) Does air (wind) tend to flow from high to low, or low to high? Why?
- (4) *Isotherms* and *isobars* are both types of contour lines. What is the difference between the two?

## Part II: Isotherm map

- Find the lowest temperature on the Isotherm Map.*
- Go to the nearest 10° F increment.*
- Draw isotherms at a 10° interval. **Label each line.***
- Lightly shade in your map using the color key.*
- Answer the following questions:*

### Color Key:

- 70 – 80° → RED
- 60 – 70° → ORANGE
- 50 – 60° → YELLOW
- 40 – 50° → GREEN
- 30 – 40° → LIGHT BLUE
- 20 – 30° → DARK BLUE
- Less than 20° → PURPLE

- 1) Based on the isotherm map, in what direction would you head from Pennsylvania state to find warmer temperatures?
- 2) What should people in Pennsylvania expect to happen to their temperature over the next two days or so? **Explain how you know.**

### Part III: Isobar map

- A. Find the lowest pressure on the Isobar Map.
- B. Draw the 992 mb isobar around the lowest pressure.
- C. Complete isobars in increments of 4 mb up to the 1028 mb isobar. **Label each line.**
- D. Label the low pressure center with an "L" and the high pressure center with an "H".
- E. Draw the direction the winds will flow around each of the two pressure centers.
- F. Answer the following questions:

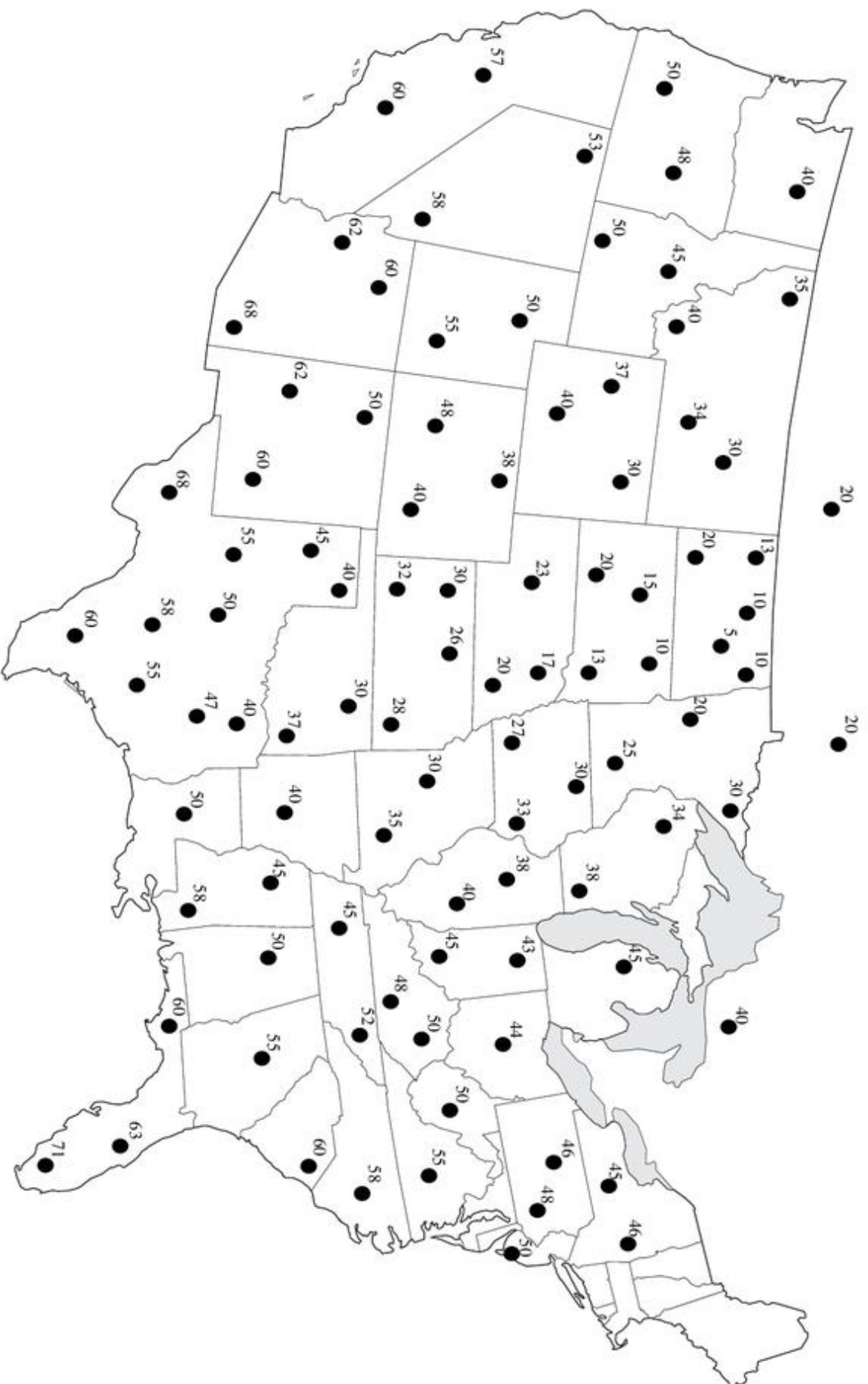
- 3) In what part of the US is the high pressure center located? \_\_\_\_\_
- 4) In what part of the US is the low pressure center located? \_\_\_\_\_
- 5) In general, air tends to move (toward / away from) a high pressure system.  
*circle one*
- 6) Look at the diagrams on p. 538 – 539 in your textbook. Now, draw arrows to show how wind moves around a high vs. a low pressure zone (in the N. Hemisphere).

**H**

**L**

- 7) In the center of a \_\_\_\_\_ pressure zone, air tends to rise. In the center of a \_\_\_\_\_ pressure zone, air tends to sink.
- 8) A \_\_\_\_\_ pressure system is likely to result in cloud formation and precipitation. A \_\_\_\_\_ pressure system usually results in dry conditions, and fair weather.
- 9) Read about the formation of hurricanes on p. 575 – 576. Where and how do hurricanes form?
  
- 10) Is a hurricane a high or low pressure system? How can you tell?

# Isotherm Map



# Isobar Map

