Roland-Story Meteorology Class

Weather Patterns

Chapter 9 Study Guide

Name _____ _____ points earned

20 possible points

1. How did the early Norwegian meteorologists describe fronts? What page did you find this answer on?

2. If you were located 250 miles ahead of the surface position of a typical warm front, how high would the frontal surface be above you? What page did you find this answer on?

3. Compare the weather of a warm front with that of a cold front. What page did you find this answer on?

4. Why is cold-front weather usually more severe than warm-front weather? What page did you find this answer on?

5. Explain the basis for the following weather proverbs: What page did you find this answer on?

    a. Rain long foretold, long last –

    b. Short notice, soon past --

6. How does a stationary front produce precipitation when its position does not change, or changes very slowly? What page did you find this answer on?

7. Distinguish between cold-type and warm-type occluded fronts. What page did you find this answer on?

8. What happens first in the formation of a mid-latitude cyclone. What page did you find this answer on?

9. Mid-latitude cyclones are sometimes called **wave cyclones**. Why do you think this is so? What page did you find this answer on?

10. Although the formation of an occluded front often represents a period of increased intensity for a mid-latitude cyclone, it also marks the beginning of the end of the system. **Explain why**. What page did you find this answer on?

11. For each of the weather elements listed here, describe the changes that an individual experiences when a middle-latitude cyclone passes with its **center north of the observer**. (hint: look at figure 9-11 and 9-12). What page did you find this answer on?

    a. Wind direction –

    b. Pressure tendency –

    c. Cloud type –

    d. Cloud cover –

    e. Precipitation –

    f. Temperature --

12. Describe the weather conditions that an observer would experience if the center of a mid-latitude **cyclone passed to the south**. What page did you find this answer on?

13. Distinguish between veering and backing winds (see box 9-1). What page did you find this answer on?

14. What is speed divergence? Speed convergence? What page did you find this answer on?

15. What are two possible ways a blocking high might influence the weather? What page did you find this answer on?

16. Briefly describe the various weather phenomena that could be associated with a strong springtime cyclonic storm traveling across the United States. What page did you find this answer on?