1. How did the early Norwegian meteorologists describe fronts?

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?

3. Compare the weather of a warm front with that of a cold front.

4. Why is cold-front weather usually more severe than warm-front weather?
5. Explain the basis for the following weather proverbs:
   
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?

7. Distinguish between cold-type and warm-type occluded fronts.

8. Describe the initial stage in the formation of a mid-latitude cyclone.

9. Mid-latitude cyclones are sometimes called wave cyclones. Why do you think this is so?
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 such is the case.

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).

   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.
13. Distinguish between veering and backing winds (see box 9-1).

14. Briefly explain how the flow aloft maintains cyclones at the surface.

15. What is speed divergence? Speed convergence?

16. Given an upper air chart, where do forecasters usually look to find favorable sites for cyclogenesis? Where do anticyclones usually form in relation to the upper-level flow?
17. What are two possible ways a blocking high might influence the weather?

18. Briefly describe the various weather phenomena that could be associated with a strong springtime cyclonic storm traveling across the United States.

19. Define the following terms by using the web site at www.rsffa.com, go to Meteorology link and play the hangman game.
   a. Cold front –
   b. Occluded front –
   c. Conveyor belt model –
   d. Cyclogenesis –
   e. Dryline –
   f. Front –
   g. Mid-latitude cyclone –
h. Norwegian cyclone model –

i. Occlusion –

j. Overrunning –

k. Polar front theory –

l. Speed divergence –

m. Stationary front –

n. Warm front –