

Name: \_\_\_\_\_

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

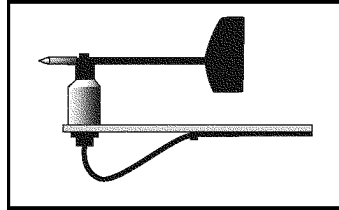
Weather  
Earth Science

# Weather Practice Test

**Note:** For questions 1-25 record your answers on the scantron provided. Some questions may require the use of the 2011 Edition Reference Tables for Physical Setting/Earth Science.

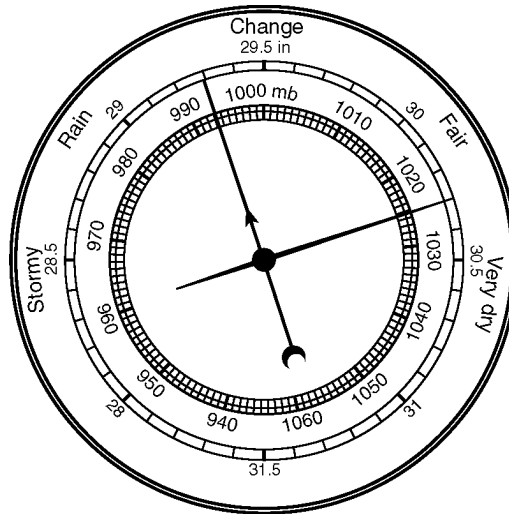


- 1) What weather instrument is used to measure air temperatures recorded on a weather map?
- 1) thermometer                      2) barometer                      3) wind vane                      4) anemometer
- 2) Which one of the following weather instruments is *most* useful in measuring relative humidity?
- 1) wind vane                      2) psychrometer                      3) anemometer                      4) barometer
- 3) The diagram below shows a weather instrument found at most weather stations.



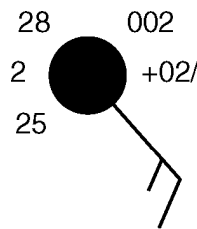
The main function of this instrument is to measure which weather variable?

- 1) wind direction                      2) air pressure                      3) wind speed                      4) relative humidity
- 4) The diagram below shows an instrument used in weather forecasting.



This instrument measures atmospheric

- 1) wind speed                      2) pressure                      3) temperature                      4) wind direction
- 5) The station model below represents the weather conditions for a location in New York State.



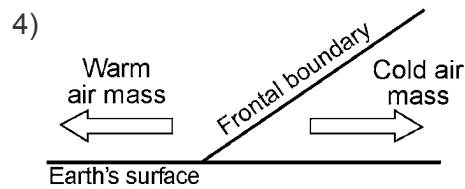
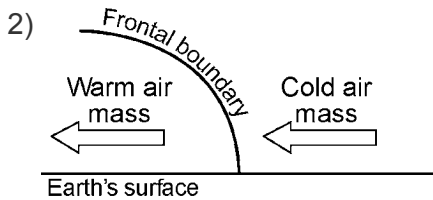
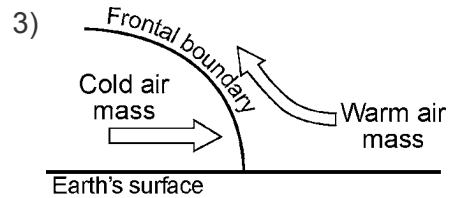
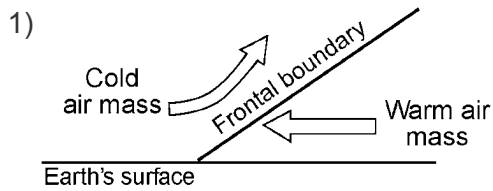
The barometric trend for the past three hours at this location indicates a steady increase of

- 1) 2.0 mb                      2) 0.002 mb                      3) 0.02 mb                      4) 0.2 mb

6) Clouds most likely form as a result of

- 1) moist air rising, expanding, and cooling
- 2) dry air rising, compressing, and warming
- 3) dry air rising, expanding, and cooling
- 4) moist air rising, compressing, and warming

7) Which one of the following cross sections correctly represents a cold front and the air-mass movements associated with this front?



8) What is the dewpoint when the dry bulb temperature is 20°C and the relative humidity is 17%?

- 1) 11°C
- 2) -2°C
- 3) 15°C
- 4) -5°C

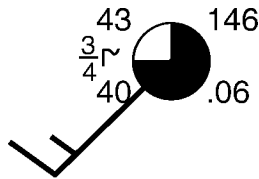
9) In which direction do the surface winds blow around a high-pressure system in the Northern Hemisphere?

- 1) clockwise and inward
- 2) counterclockwise and outward
- 3) clockwise and outward
- 4) counterclockwise and inward

10) What is the relative humidity if the dry-bulb temperature is 26°C and the wet-bulb temperature is 18°C?

- 1) 13%
- 2) 33%
- 3) 45%
- 4) 51%

11) Various weather conditions at LaGuardia Airport in New York City are shown on the station model below.



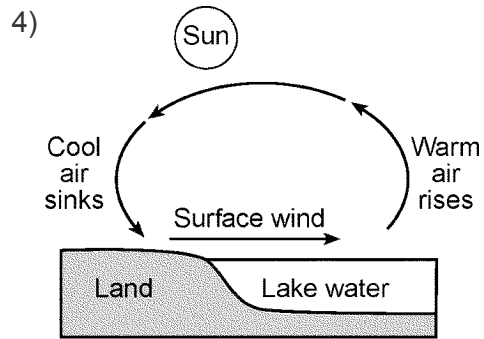
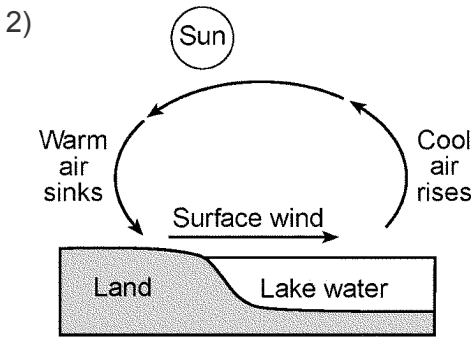
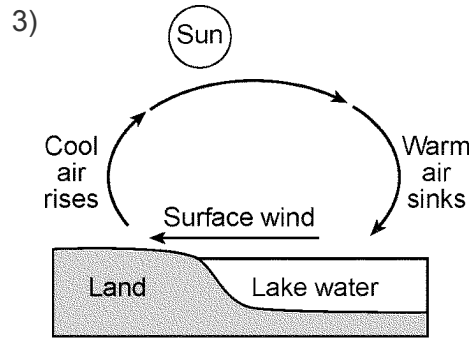
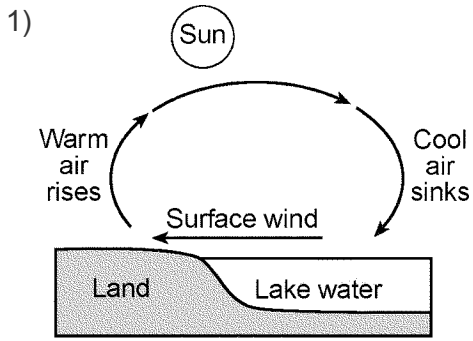
What were the barometric pressure and weather conditions at the airport at the time of the observation?

- 1) 1014.6 mb of pressure and smog
- 2) 914.6 mb of pressure and a clear sky
- 3) 914.6 mb of pressure and smog
- 4) 1014.6 mb of pressure and a clear sky

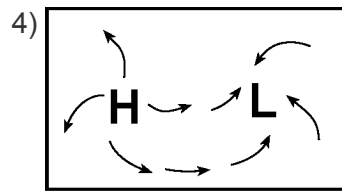
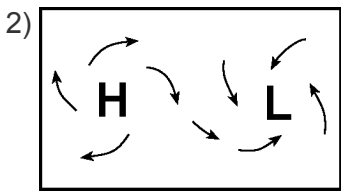
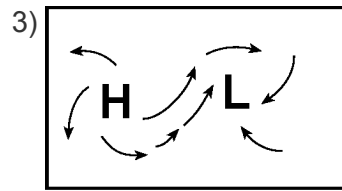
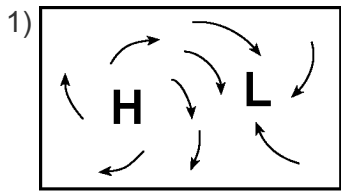
12) Which type of air mass most likely has high humidity and high temperature?

- 1) mP
- 2) mT
- 3) cP
- 4) cT

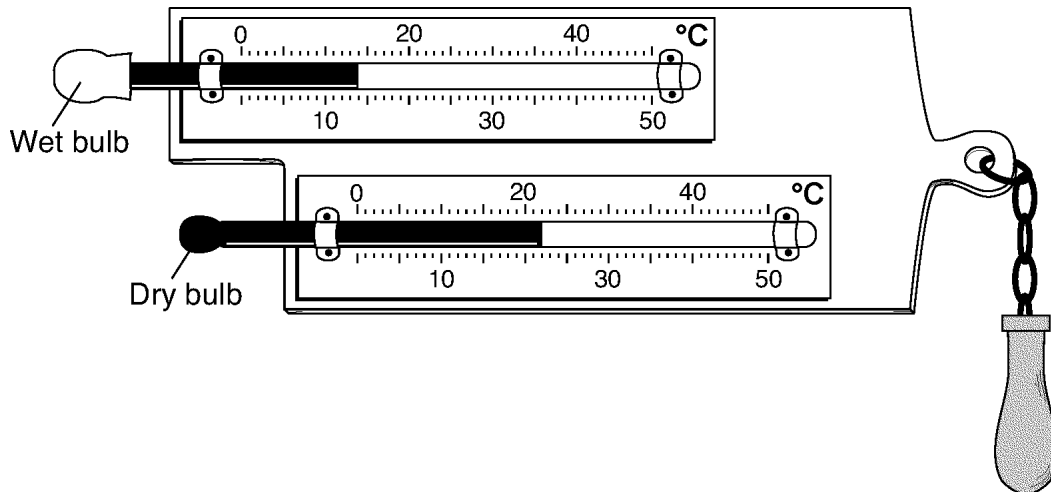
13) Which cross section *best* represents how surface winds form by midafternoon near a shoreline on a hot summer day? [Diagrams are not drawn to scale.]






14) Which map *best* represents the surface wind pattern around Northern Hemisphere high-pressure and low-pressure centers?



15) The diagram below shows a weather instrument used to determine relative humidity.

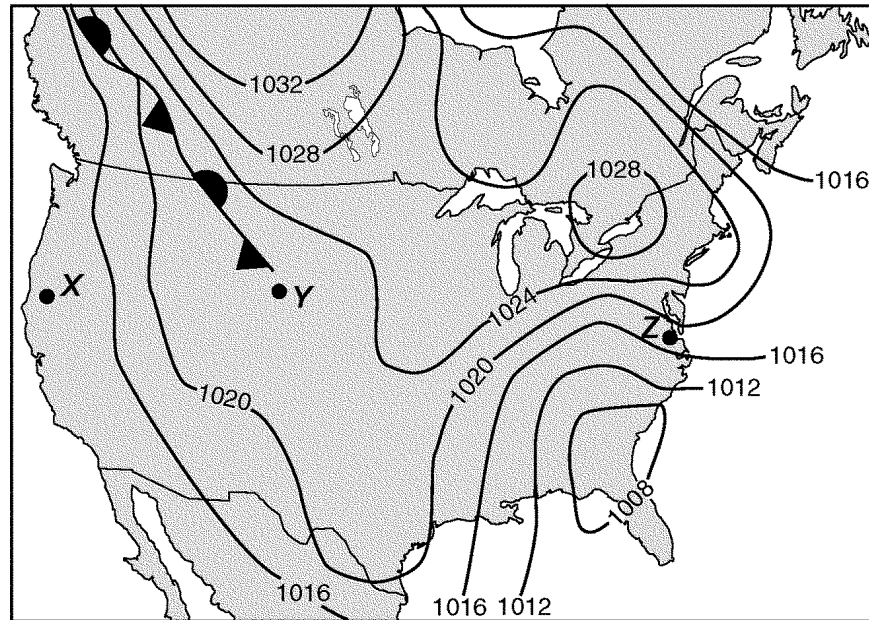


What is the relative humidity?

- 1) 8%
  - 2) 36%
  - 3) 4%
  - 4) 40%
- 16) A severe thunderstorm warning was issued on a warm summer afternoon. Which one of the following weather symbols represents the dangerous solid form of precipitation that is commonly associated with some of these severe thunderstorms?
- 1) 
  - 2) \*
  - 3) 
  - 4) 
- 17) According to the *Earth Science Reference Tables*, an air pressure of 29.47 inches of mercury is equal to
- 1) 998 mb
  - 2) 1,014 mb
  - 3) 996 mb
  - 4) 1,002 mb
- 18) A temperature of 104°F is approximately equal to
- 1) 220°C
  - 2) 214°C
  - 3) 40°C
  - 4) 43°C
- 19) A low-pressure system in the Northern Hemisphere has a surface air-circulation pattern that is
- 1) clockwise and toward the center
  - 2) counterclockwise and away from the center
  - 3) counterclockwise and toward the center
  - 4) clockwise and away from the center
- 20) The presence of which atmospheric condition will most likely result in clear skies in Binghamton, New York?
- 1) high-pressure center
  - 2) dewpoint equal to air temperature
  - 3) increasing wind speed
  - 4) high humidity

**Questions 21 and 22 refer to the following:**

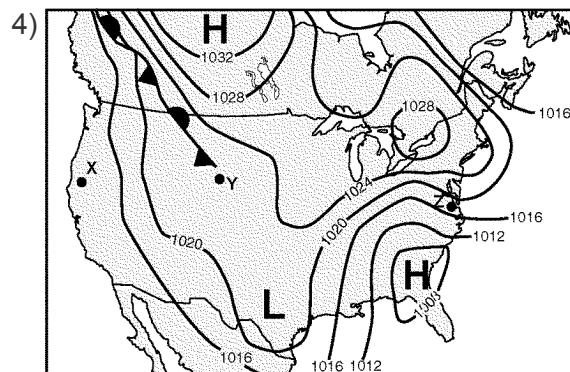
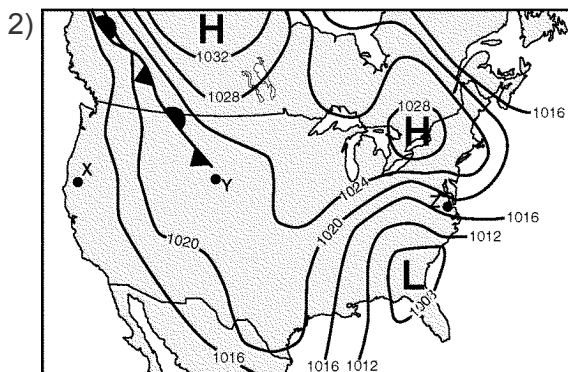
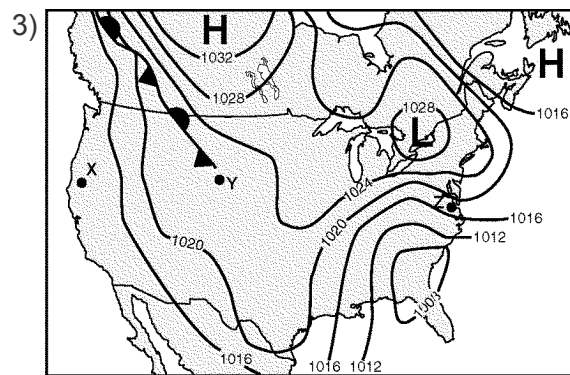
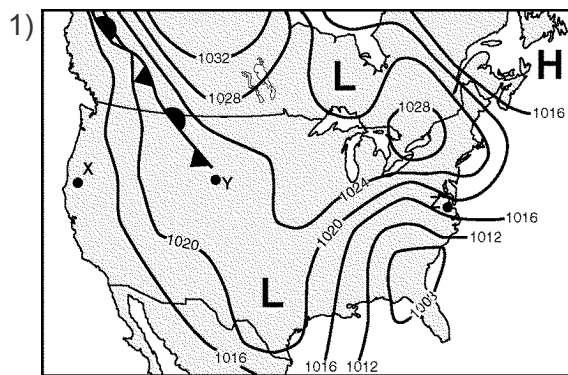
The map below shows typical weather systems over North America. Letters X, Y, and Z represent locations on the map. The isobars on the map are measured in millibars (mb).



21) Which type of front extends northwest from location Y?

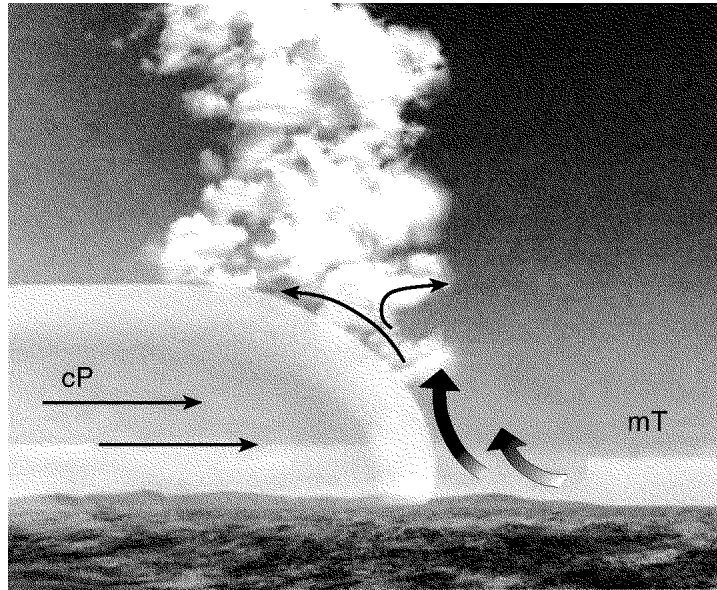
- 1) cold front                      2) stationary front                      3) warm front                      4) occluded front

22) Which map *best* shows the locations for the centers of high pressure (H) and low pressure (L)?



**Questions 23 through 25 refer to the following:**

The arrows on the cross section below represent the air movement along a weather front between two different air masses. The air masses are labeled.



23) Which type of front is represented by the given cross section?

- 1) stationary                      2) warm                      3) occluded                      4) cold

24) Clouds are forming along the front shown because the rising air is

- 1) contracting and warming, causing evaporation                      3) contracting and cooling, causing evaporation  
2) expanding and warming, causing condensation                      4) expanding and cooling, causing condensation

25) Which one of the following statements *best* describes the difference in air temperature and humidity between the cP and mT air masses shown?

- 1) The mT air mass is cooler and less humid.                      3) The cP air mass is warmer and less humid.  
2) The cP air mass is cooler and more humid.                      4) The mT air mass is warmer and more humid.