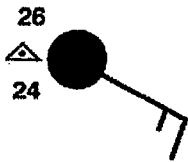


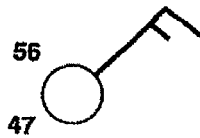
1. On a July afternoon in Florida, the barometric pressure is 29.85 inches and falling. This reading most likely indicates

- (1) an approaching storm
- (2) rapidly clearing skies
- (3) continuing fair weather
- (4) gradually improving conditions

2. Which weather station model for a New York State location indicates that snow may be about to fall?



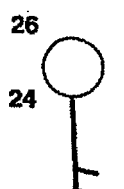
(1)



(3)



(2)

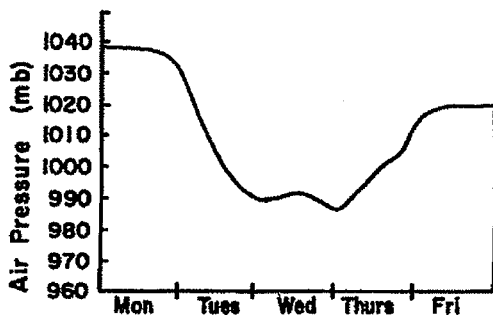


(4)

3. Which list correctly matches each instrument with the weather variable it measures?

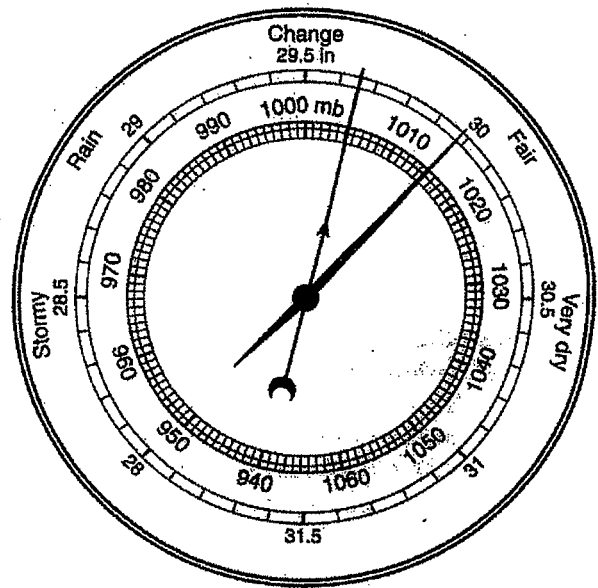
- (1) wind vane—wind speed  
thermometer—temperature  
precipitation gauge—relative humidity
- (2) wind vane—wind direction  
thermometer—dewpoint  
psychrometer—air pressure
- (3) barometer—relative humidity  
anemometer—cloud cover  
precipitation gauge—probability of precipitation
- (4) barometer—air pressure  
anemometer—wind speed  
psychrometer—relative humidity

4. The graph below shows the surface air pressure at a certain city during a five-day period. On which day was the warmest airmass probably over the city for the entire day?



- (1) Monday
- (2) Tuesday
- (3) Wednesday
- (4) Friday

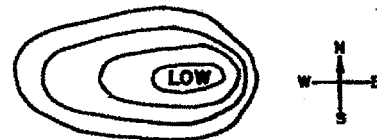
5. A weather instrument is shown below.



Which weather variable is measured by this instrument?

- (1) wind speed
- (2) precipitation
- (3) cloud cover
- (4) air pressure

6. The diagram below shows the isolines of air pressure around a low-pressure center. On which side of the low-pressure center will the wind speed be greatest?



- (1) north
- (2) south
- (3) east
- (4) west

7. Wind velocity is most directly dependent on the

- (1) gradient of the air pressure field
- (2) value of the Coriolis effect
- (3) moisture content of the air
- (4) rotational velocity of the Earth

8. An air pressure of 29.47 inches of mercury is equal to

- (1) 996 mb
- (2) 998 mb
- (3) 1,002 mb
- (4) 1,014 mb

9. A high-pressure center is generally characterized by

- (1) cool, wet weather
- (2) cool, dry weather
- (3) warm, wet weather
- (4) warm, dry weather

10. Air pressure is usually highest when the air is

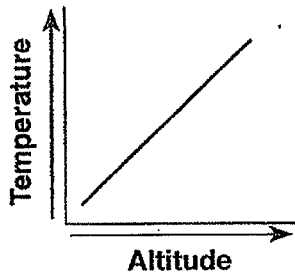
- (1) warm and humid
- (2) warm and dry
- (3) cold and humid
- (4) cold and dry

11. As warm, moist air moves into a region, barometric pressure readings in the region will generally

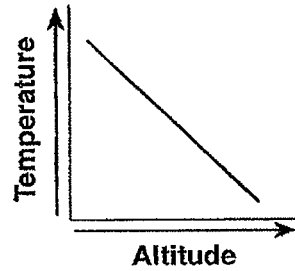
- (1) decrease
- (2) increase
- (3) remain the same

12. Which graph best shows the general relationship between altitude and temperature in the troposphere?

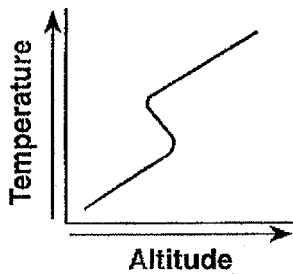
(1)



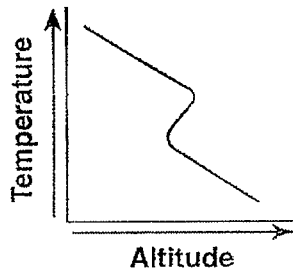
(2)



(3)



(4)



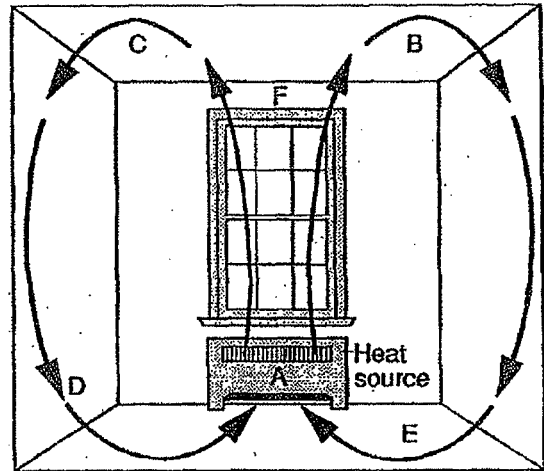
13. Wind is caused mainly by air-pressure differences that result from

- (1) uneven heating of Earth's atmosphere
- (2) absorption of ultraviolet radiation by Earth's landmasses
- (3) radiation of heat from Earth's landmasses to water bodies
- (4) rotation of Earth on its axis

14. The Coriolis effect provides evidence that Earth

- (1) rotates
- (2) has a tilted axis
- (3) has seasons
- (4) revolves

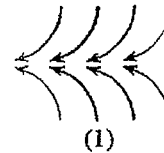
15. Base your answer to the following question on the diagram below. The diagram shows the pattern of air movement within a closed room.



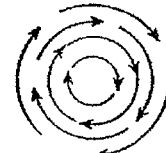
If the room is considered a model of circulation in the Earth's atmosphere, at which location would air pressure be greatest?

- (1) A
- (2) B
- (3) E
- (4) F

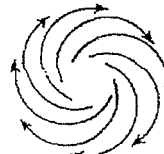
16. Which diagram best illustrates a map view of the motion of lower level winds in a Northern Hemisphere hurricane?



(1)



(3)



(2)



(4)

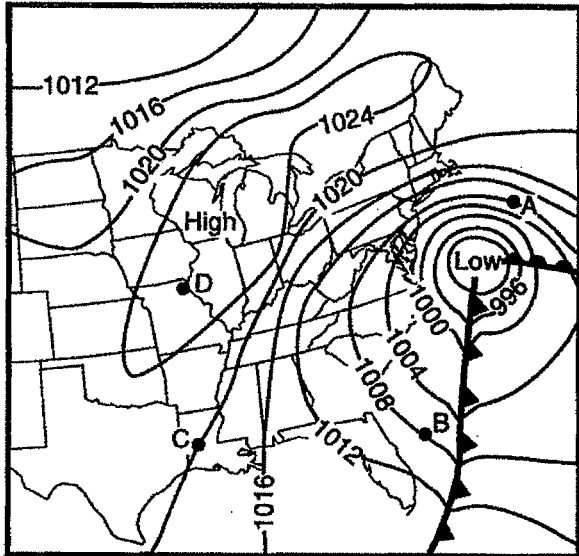
17. The air over the Equator generally rises because the air is

- (1) dry and cool with low density
- (2) moist and hot with low density
- (3) moist and cool with high density
- (4) dry and hot with high density

18. The Coriolis effect causes winds in New York State to generally curve

- (1) to the right of the direction of travel
- (2) to the left of the direction of travel
- (3) upward away from Earth's surface
- (4) downward toward Earth's surface

19. Base your answer to the following question on the weather map below. Points *A*, *B*, *C*, and *D* are locations on Earth's surface.



The strongest winds are closest to location

- (1) *A* (3) *C*  
 (2) *B* (4) *D*
20. The table below shows air-pressure readings taken at two cities, in the same region of the United States, at noon on four different days.

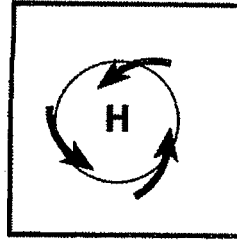
**Air-Pressure Readings**

Day	City A Air Pressure (mb)	City B Air Pressure (mb)
1	1004.0	1004.0
2	1000.1	1002.9
3	1000.2	1011.1
4	1010.4	1012.3

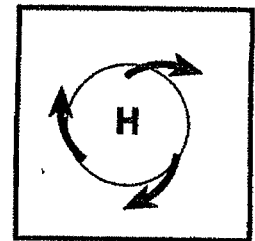
The wind speed in the region between cities *A* and *B* was probably the greatest at noon on day

- (1) 1 (3) 3  
 (2) 2 (4) 4
21. What causes the Coriolis effect?
- (1) Earth's tilt on its axis  
 (2) the spin of Earth on its axis  
 (3) the orbital motion of the Moon around Earth  
 (4) the orbital motion of Earth around the Sun

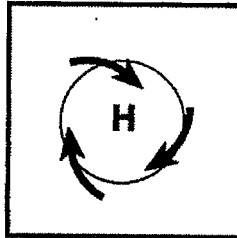
22. Which map best represents the surface wind pattern around a Northern Hemisphere high-pressure center?



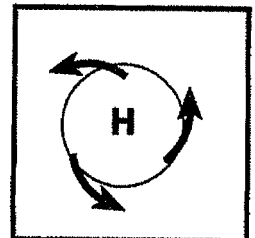
(1)



(3)



(2)



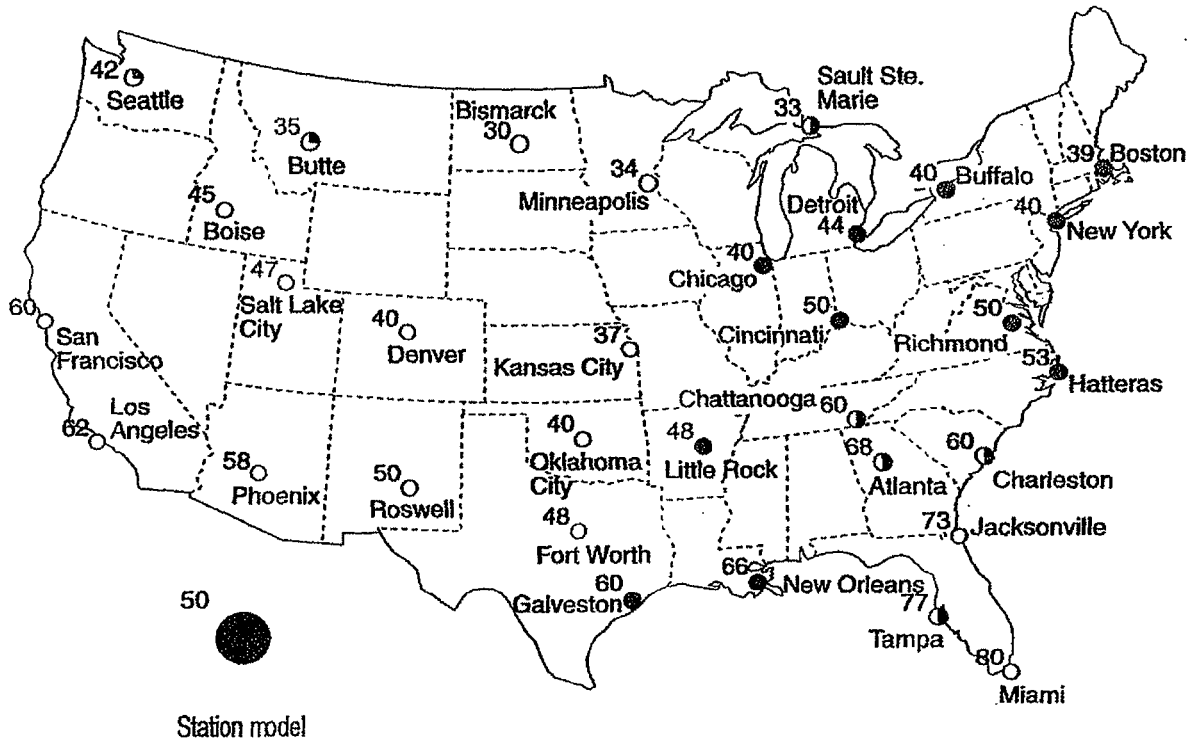
(4)

23. Base your answers to the following questions on the weather station data shown in the table below.

Air Temperature	21°C
Barometric Pressure	993.1 mb
Wind Direction	From the east
Windspeed	25 knots

- a) State the air temperature in degrees Fahrenheit.
- b) State the barometric pressure in its proper form, as used on a station model.
- c) Using one or more complete sentences, state one reason that ultraviolet rays are dangerous.

Base your answers to questions 24 and 25 on the weather map below, which shows temperature readings at weather stations in the continental United States.



24. On the weather map provided on your answer paper, draw three isotherms: the 40°F isotherm, the 50°F isotherm, and the 60°F isotherm.
25. In Richmond, Virginia, the wind direction is from the east at a speed of 20 knots. On the station model provided draw the correct symbols for wind direction and windspeed.

26. On station Model below fill in the following:

Air temperature = 57°F  
 Winds from NE at 25 Knots  
 Barometric pressure = 1004.6 mb  
 Visibility = 7 Miles  
 Cloud Cover = 25%



27. Convert to the Actual pressure:

972 = \_\_\_\_\_ 081 = \_\_\_\_\_ 0003 = \_\_\_\_\_

360 = \_\_\_\_\_ 885 = \_\_\_\_\_ 121 = \_\_\_\_\_