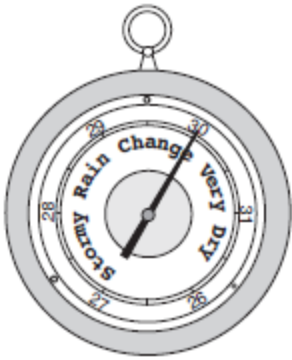
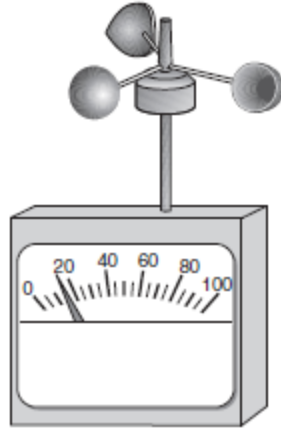


1. The diagram below shows weather instruments *A* and *B*.



A



B

Which table correctly indicates the name of the weather instrument and the weather variable that it measures?

A)

Instrument		Weather Variable Measured
Letter	Name	
A	thermometer	humidity
B	wind vane	wind direction

B)

Instrument		Weather Variable Measured
Letter	Name	
A	thermometer	wind direction
B	wind vane	humidity

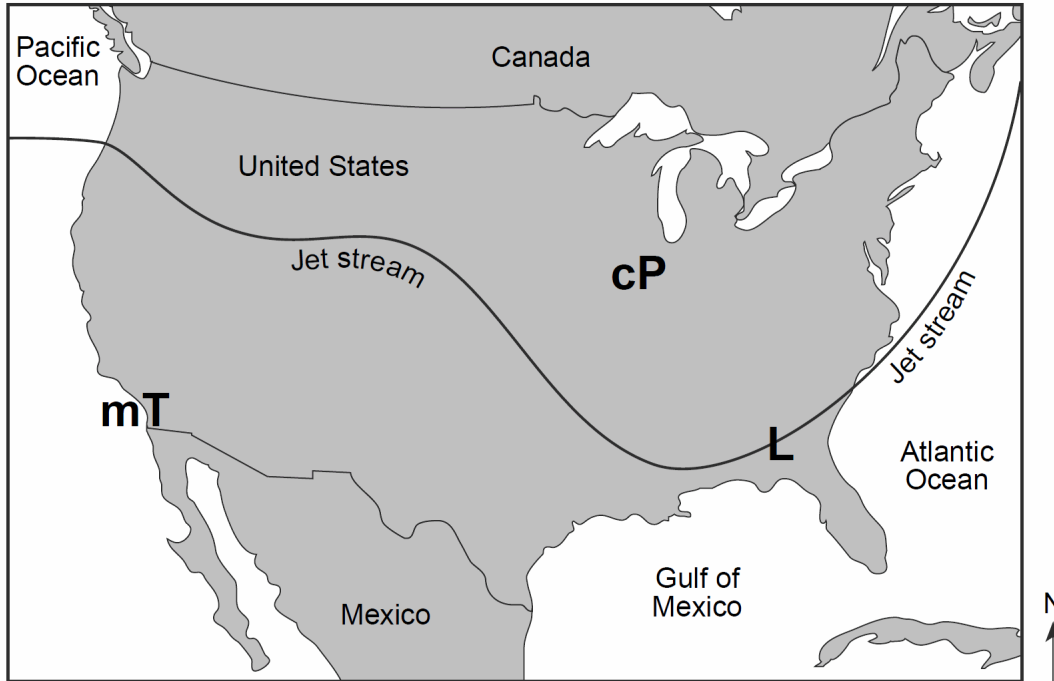
C)

Instrument		Weather Variable Measured
Letter	Name	
A	barometer	wind speed
B	anemometer	air pressure

D)

Instrument		Weather Variable Measured
Letter	Name	
A	barometer	air pressure
B	anemometer	wind speed

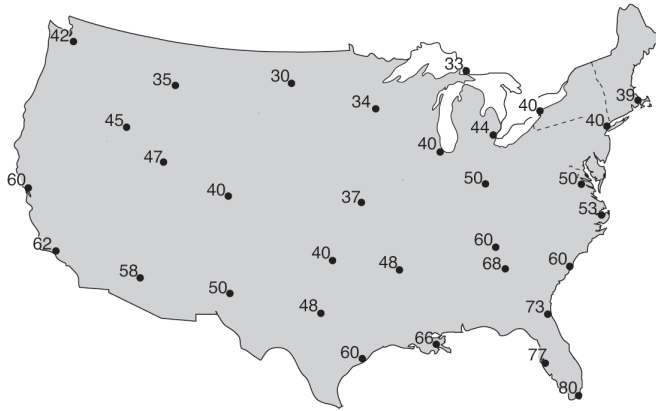
2. Base your answer to the following question on the map below, which shows the position of the jet stream relative to two air masses and a low-pressure center (L) over the United States.



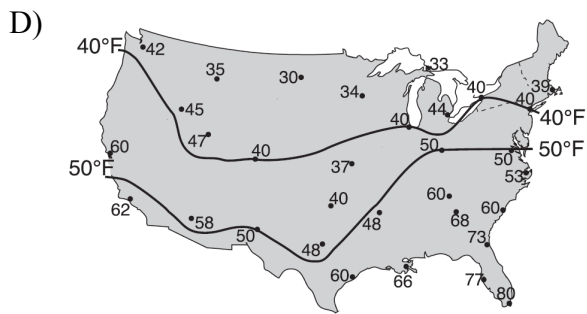
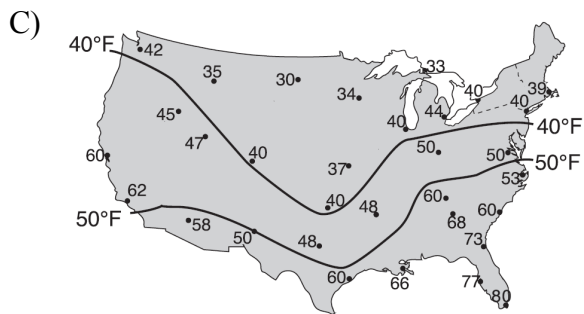
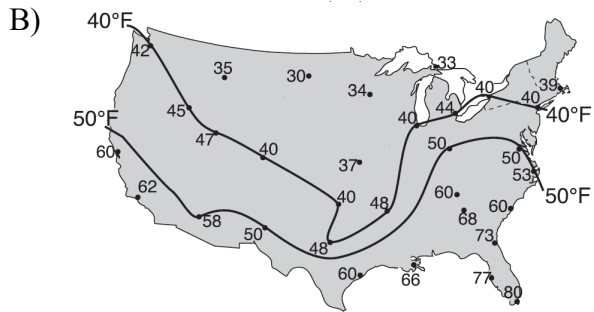
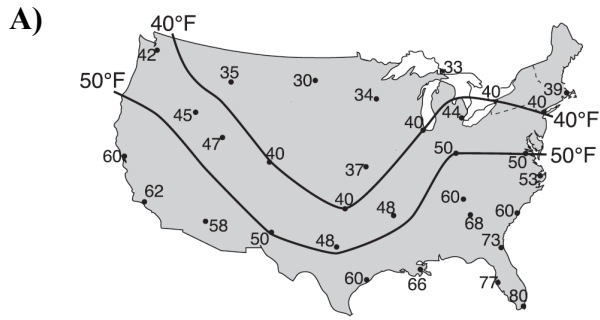
Assuming the low-pressure center (L) follows a typical storm track, it will move

- A) into the mT air mass to the west
- B) into the cP air mass to the northwest
- C) along the path of the jet stream to the northeast**
- D) along the path of the jet stream to the southwest

3. The weather map below shows the air temperatures recorded at the same time at cities across the United States.



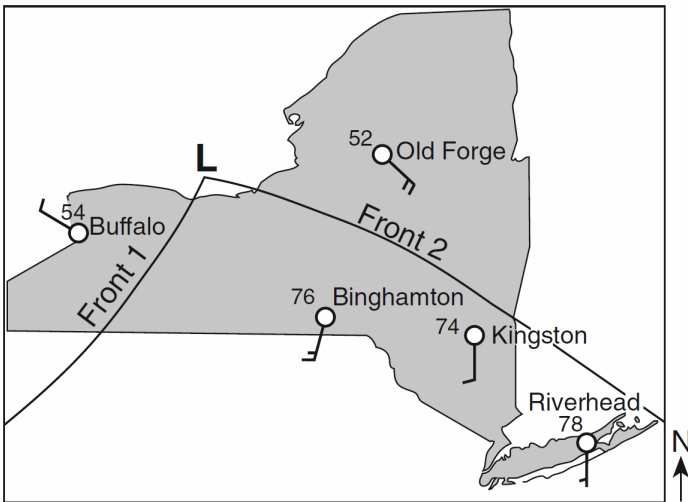
Which map correctly shows the locations of the 40°F and 50°F isotherms?



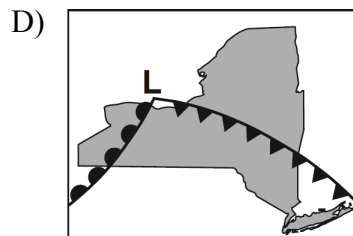
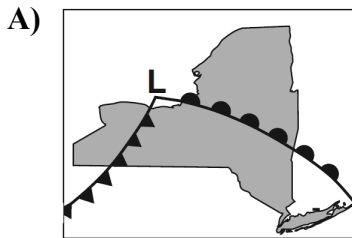
4. Which weather variable generally *decreases* when wind speed is increasing, clouds are thickening, and visibility drops?

- A) relative humidity B) dewpoint
 C) precipitation **D) air pressure**

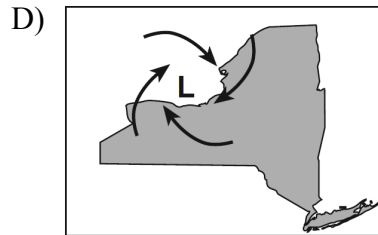
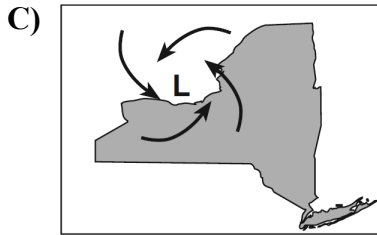
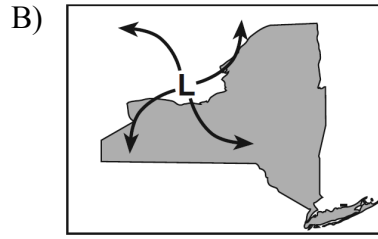
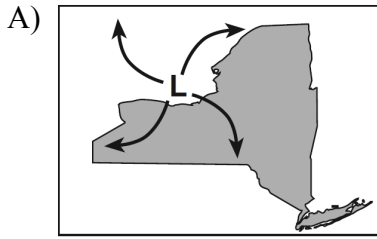
Base your answers to questions 5 and 6 on the weather map below, which represents a low-pressure system over New York State. The **L** on the map represents the center of the low-pressure system. Two fronts extend from the center of the low, and are labeled front 1 and front 2. Cloud cover has been omitted from the station models.



5. Which map best represents the type of fronts and direction of movement of these fronts in relation to the low-pressure center?



6. The arrows on which map best represent the surface wind pattern around this low-pressure center?



7. What is the relative humidity when the dry-bulb temperature is 16°C and the wet-bulb temperature is 14°C ?

- A) 90% **B) 80%** C) 14% D) 13%

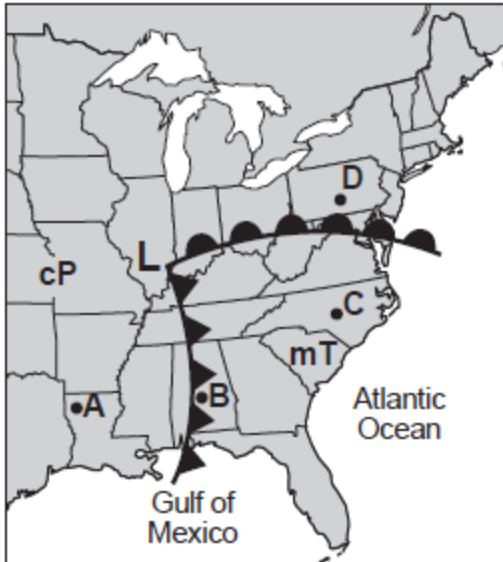
8. An observer measured the air temperature and the dewpoint and found the difference between them to be 12°C . One hour later, the difference between the air temperature and the dewpoint was found to be 4°C . Which statement best describes the changes that were occurring?

- A) The relative humidity was decreasing and the chance of precipitation was decreasing.
B) The relative humidity was decreasing and the chance of precipitation was increasing.
C) The relative humidity was increasing and the chance of precipitation was decreasing.
D) The relative humidity was increasing and the chance of precipitation was increasing.

9. An air mass entering Alaska from the northern Pacific Ocean would most likely be labeled on a weather map as

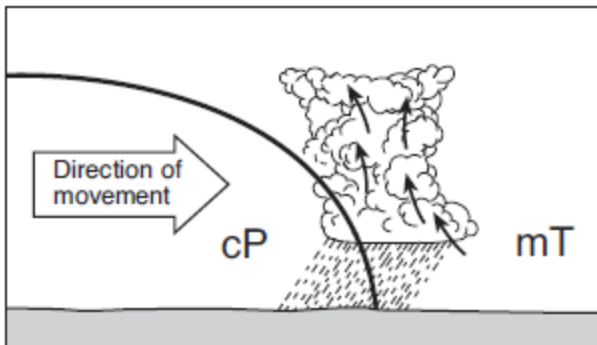
- A) cP B) cT **C) mP** D) mT
-

10. Base your answer to the following question on the weather map below and on your knowledge of Earth Science. The map shows a low-pressure system with two fronts extending from its center (L). Points *A*, *B*, *C*, and *D* represents locations on Earth's surface. Two different air masses are labeled.



Which locations are most likely experiencing precipitation?

- A) *A* and *B* B) *B* and *C* C) *C* and *D* **D) *D* and *B***
11. A cross section of a weather front is shown below.



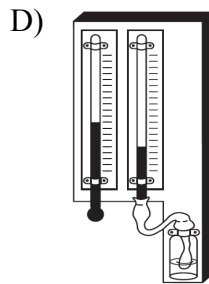
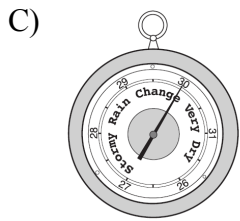
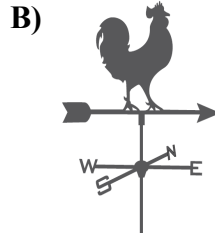
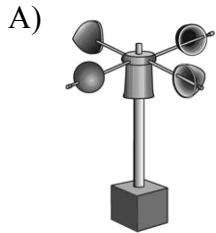
Which symbol would be used to represent this front on a weather map?

- A) B) C) D)

12. Which air mass is associated with low relative humidity and high air temperature?

- A) maritime polar
- B) maritime tropical
- C) continental polar
- D) continental tropical**

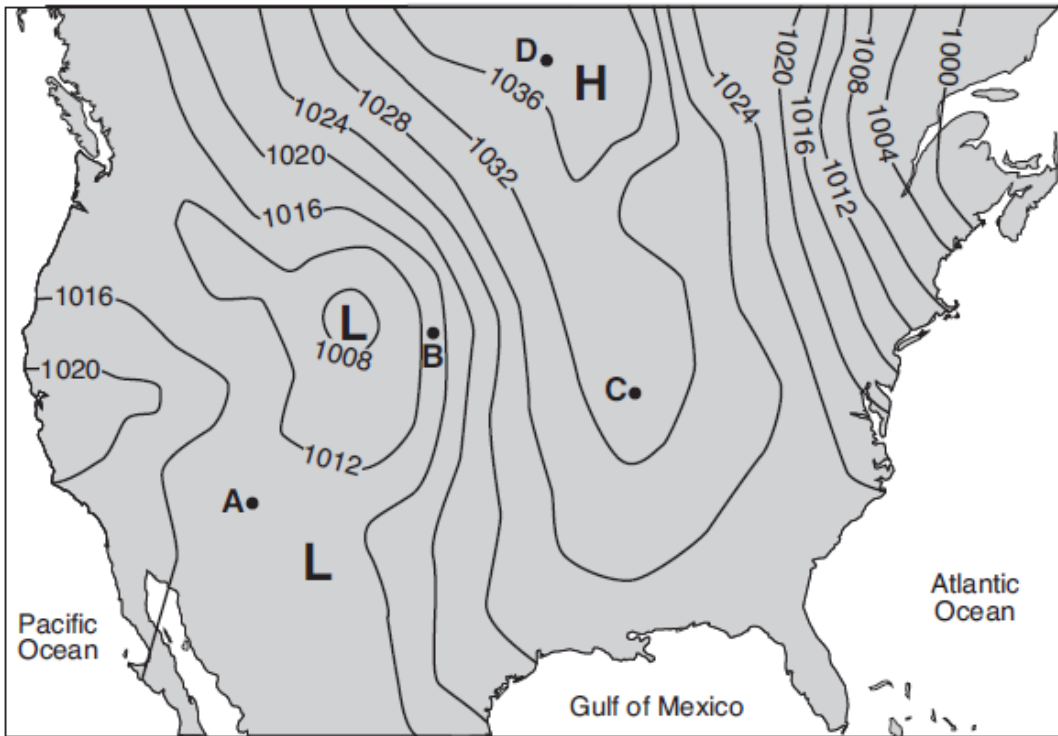
13. Which weather instrument is used to determine wind direction?



14. Jet stream winds over the United States generally move from

- A) east to west
- B) west to east**
- C) north to south
- D) south to north

15. The weather map below shows isobars labeled in millibars. Points *A*, *B*, *C*, and *D* are locations on Earth's surface.

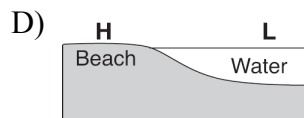
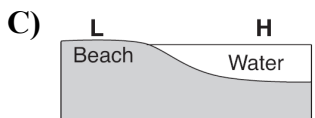
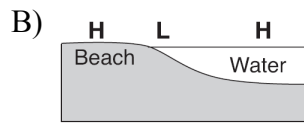
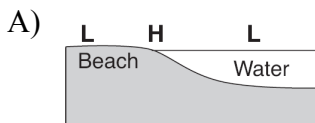


Which location was probably experiencing the highest wind speed?

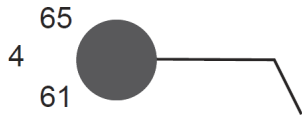
- A) *A* B) *B* C) *C* D) *D*

16. Which cross section below best shows the locations of high air pressure and low air pressure near a beach on a hot, sunny, summer afternoon?

Key	
H	High air pressure
L	Low air pressure



17. The station model below shows some weather conditions at a location on Earth's surface.



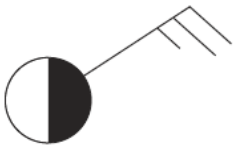
Which present weather symbol represents the most likely type of precipitation occurring at this location?

- A) B)
- C) D)

18. Which station model shows an air temperature of 75°F and a barometric pressure of 996.3 mb?

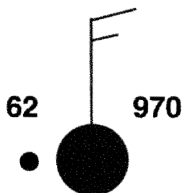
- A) B) C) D)

19. The weather station model below shows some of the weather data for a certain location.



What is the wind speed shown on the station model and which instrument is used to measure the wind speed?

- A) 15 knots, measured by a wind vane
 B) 15 knots, measured by an anemometer
 C) 25 knots, measured by a wind vane
D) 25 knots, measured by an anemometer
20. The station model below shows several weather variables recorded at a particular location.



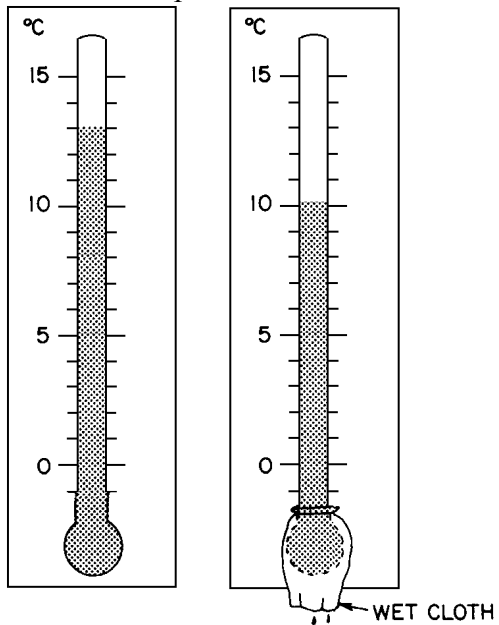
What was the most likely dewpoint at this location?

- A) 32°F B) 40°F C) 61°F D) 70°F

21. Which two processes lead to cloud formation in rising air?

- A) compressing and cooling
 B) compressing and warming
C) expanding and cooling
 D) expanding and warming
22. Cloud formation is likely to occur in rising air because rising air
- A) **expands and cools**
 B) expands and warms
 C) contracts and cools
 D) contracts and warms
23. On sunny summer days, a breeze often develops that blows from large bodies of water toward nearby land masses because the
- A) **temperature of the air above the land masses is greater**
 B) specific heat of the land masses is greater
 C) temperatures of the bodies of water are greater
 D) air over the bodies of water becomes heavier with additional water vapor

24. The two thermometers below show the dry-bulb and wet-bulb temperatures of the air.



What is the approximate dewpoint temperature of the air?

- A) -25°C
- B) 7°C
- C) 3°C
- D) 4°C

Answer Key

Weather

1. D
 2. C
 3. A
 4. D
 5. A
 6. C
 7. B
 8. D
 9. C
 10. D
 11. A
 12. D
 13. B
 14. B
 15. B
 16. C
 17. D
 18. D
 19. D
 20. C
 21. C
 22. A
 23. A
 24. B
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