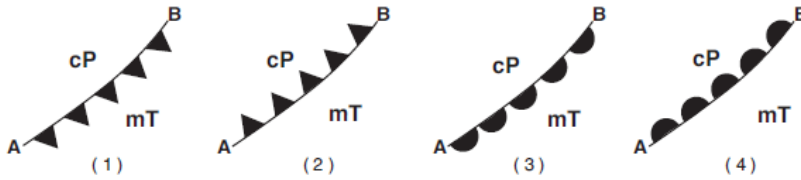


AIR MASSES AND FRONTS

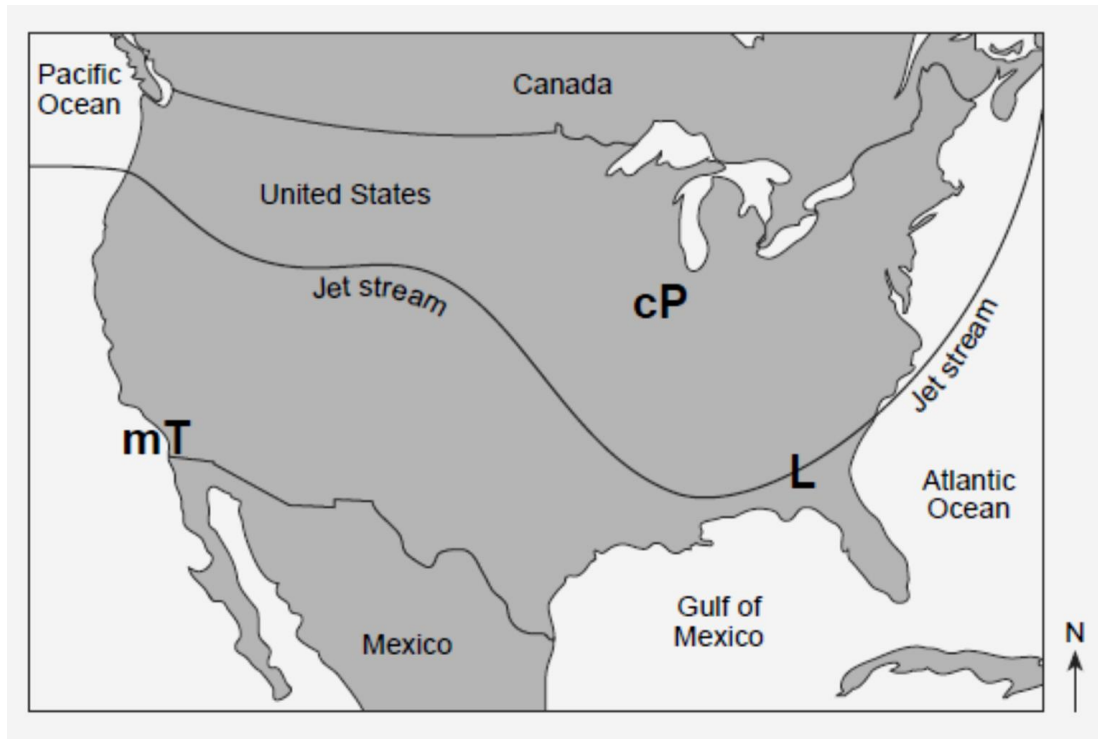
- Which air mass is associated with low relative humidity and high air temperature?
 (1) maritime polar (3) continental polar
 (2) maritime tropical (4) continental tropical
- The weather map below shows a portion of the United States. Line *AB* represents a frontal boundary between two air masses. The two large arrows indicate the direction that a cP air mass is moving.

Which symbol correctly represents the frontal boundary at line *AB*?



- Which geographic area is a common source region for cP air masses that move into New York State?
 (1) southwestern United States (3) the north Pacific Ocean
 (2) central Canada (4) the Gulf of Mexico
- The properties of an air mass are mostly determined by the
 (1) rate of Earth's rotation
 (2) direction of Earth's surface winds
 (3) source region where the air mass formed
 (4) path the air mass follows along a land surface
- Which weather map symbol represents air masses that normally form just south of the United States over the Caribbean Sea?
 (1) cP (3) mP
 (2) cT (4) mT

Base your answers to questions 6-8 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.



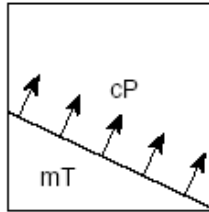
6. What is the difference in the air temperature and humidity between the cP and mT air masses?
 - (1) The cP air mass is warmer and less humid.
 - (2) The cP air mass is colder and more humid.
 - (3) The mT air mass is warmer and more humid.
 - (4) The mT air mass is colder and less humid.

7. Assuming the low-pressure center (L) follows a typical storm track, it will move
 - (1) into the mT air mass to the west
 - (2) into the cP air mass to the northwest
 - (3) along the path of the jet stream to the northeast
 - (4) along the path of the jet stream to the southwest

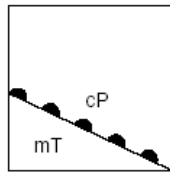
8. An air mass classified as cT usually forms over which type of Earth surface?
 - (1) cool water
 - (2) cool land
 - (3) warm water
 - (4) warm land

9. Weather along most fronts is usually cloudy with precipitation because the warm air along most fronts is usually
 - (1) sinking and cooling, causing water to evaporate
 - (2) sinking and warming, causing water to evaporate
 - (3) rising and cooling, causing water vapor to condense
 - (4) rising and warming, causing water vapor to condense

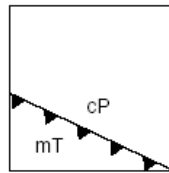
10. The map below shows the boundary between two air masses. The arrows show the direction in which the boundary is moving.



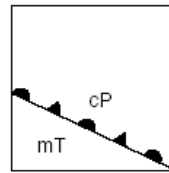
Which weather map uses the correct weather front symbol to illustrate this information?



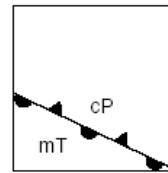
(1)



(2)



(3)

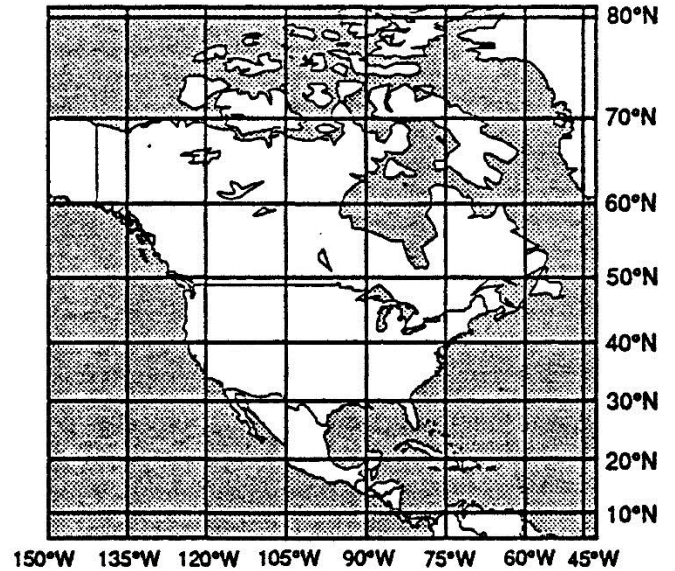


(4)

11. An air mass classified as mP usually forms over which type of Earth surface?
- (1) warm land
 - (2) warm ocean
 - (3) cool land
 - (4) cool ocean

12. An air mass originates with its center located at 55°N and 105°W. Based on this map, this air mass would be classified as

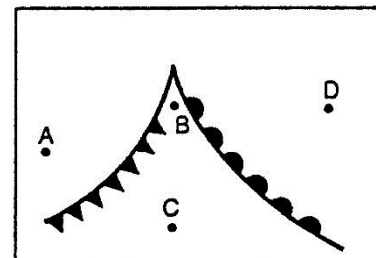
- 1 cP
- 2 mP
- 3 cT
- 4 mT



The map below represents a section of a surface weather map showing weather stations A through D.

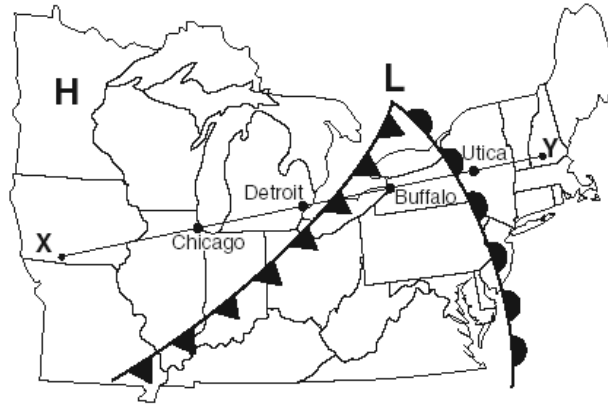
13. At which weather station is precipitation occurring?

- 1 A
- 2 B
- 3 C
- 4 D

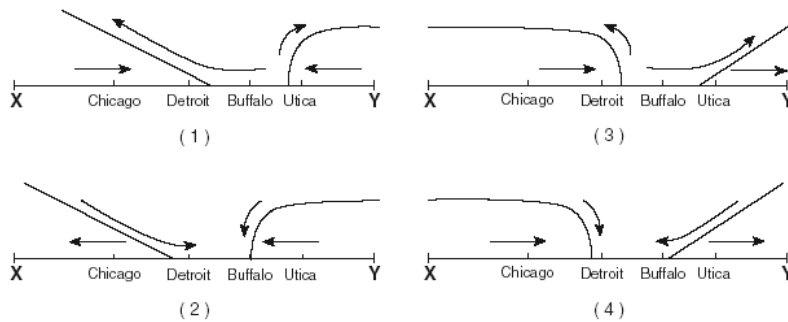


Base your answers to **questions 14-16** on the weather map below, which shows a high-pressure center (**H**) and a low-pressure center (**L**), with two fronts extending from the low-pressure center. Points X and Y are locations on the map connected by a reference line.

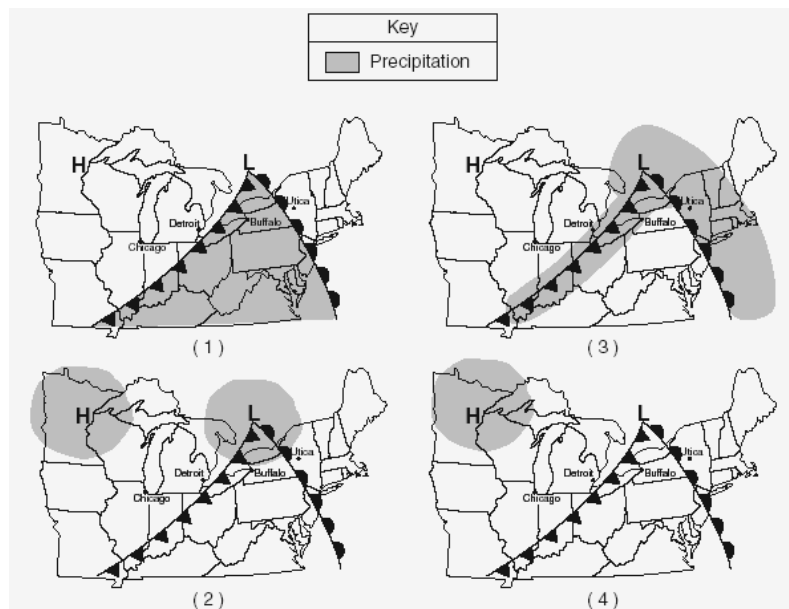
14. Which type of front is located between Buffalo and Detroit?
- (1) stationary
 - (2) warm
 - (3) occluded
 - (4) cold



15. Which cross section best represents the fronts and air movements in the lower atmosphere along line XY?

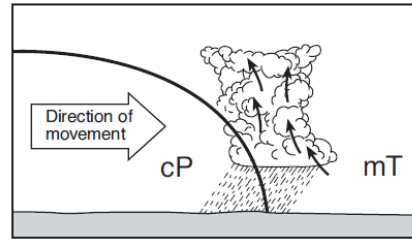






16. Which map best shows the most probable areas of precipitation associated with these weather systems?



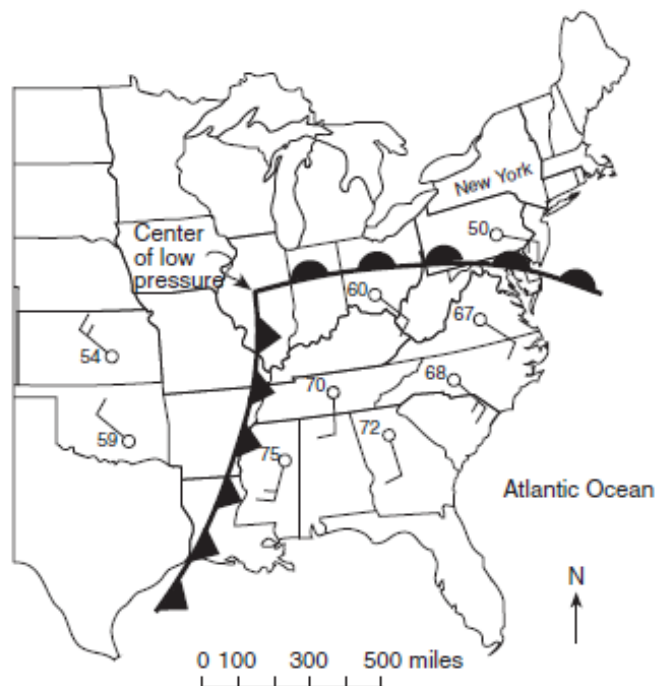
17. A cross section of a weather front is shown below.

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



- (1)  (2)  (3)  (4) 

Base your answers to **questions 18-20** on the weather map below, which shows air temperature and winds for a few locations in the eastern half of the United States. A large low-pressure system is shown on the map.



18. Surface winds within this low-pressure system generally flow
 (1) clockwise and toward the center of the system
 (2) clockwise and away from the center of the system
 (3) counterclockwise and toward the center of the system
 (4) counterclockwise and away from the center of the system
19. Which type of front extends eastward from the low-pressure center?
 (1) cold (3) occluded
 (2) warm (4) stationary
20. If the low-pressure center follows a typical storm track, it will move toward the
 (1) southwest (3) northwest
 (2) southeast (4) northeast