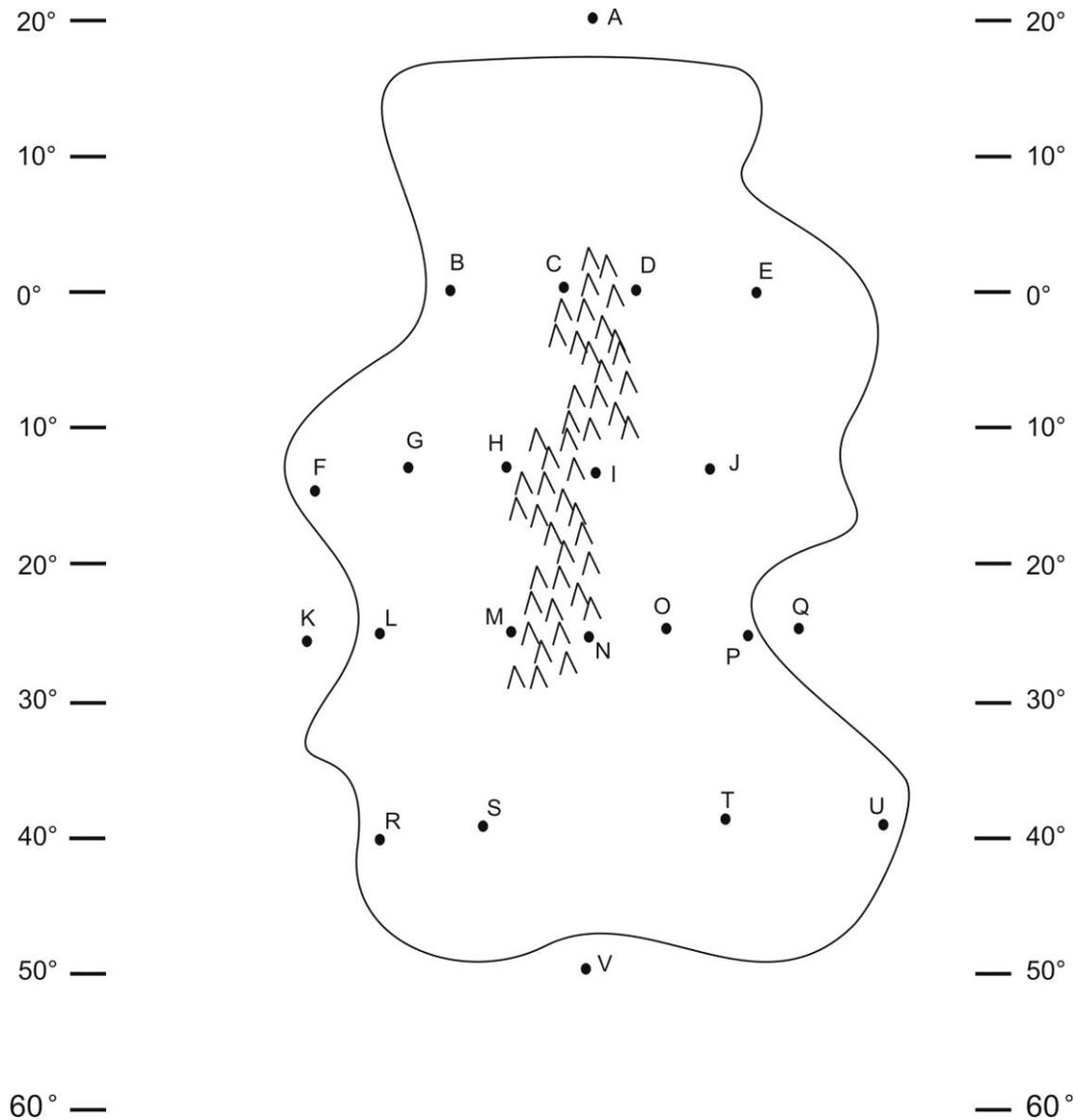


Name: _____

Part 1: Multiple Choice. Complete the map on the right. Then answer the questions below. Choose all of the answer choices that apply.

1. Which letter(s) is(are) in a high pressure belt?
E J O T V
2. At which letter(s) does the wind blow toward the southeast?
D G N S U
3. At which letter(s) is there a cold current?
A K Q V
4. Which letter(s) is(are) in a major rainforest?
D I N S
5. Which letter(s) is(are) in a major desert?
D I N S
6. Which letter(s) is(are) in a coastal wet climate?
B F L R U P
7. Which letter(s) is(are) in a wet climate caused by the rains shadow effect?
C D H I M N S T
8. Which letter(s) is(are) in a dry climate caused by the rains shadow effect?
C D H I M N S T
9. Which letter(s) is(are) in a summer wet/winter dry climate?
B E G J L O S T
10. Which letter(s) is(are) in a summer dry/winter wet climate?
B E G J L O S T
11. Which letter(s) is(are) in a humid climate?
B E G J L O S T
12. At which letter does the ocean current flow most directly Northward?
A K Q V



Part 2: Short answer Answer on a separate sheet of paper.

1. Describe the primary difference between weather and climate?
2. Which of the following is precipitation? Why? a) a lake b) clouds c) fog d) snow
3. True or false: if the entire Earth's atmosphere had the same temperature, we would not have wind.
4. At what latitudes does air sink?
5. If the Earth were a rotating disk, instead of a rotating sphere, would object flying over the Earth's surface still experience the Coriolis Effect? Why?
7. What is the other name for the Doldrums?
8. Explain why the Horse Latitudes was a troublesome place for sailors.
9. "Down in the Doldrums" means depressed. What might be interpreted as depressing about the Doldrums?
10. If a prevailing wind in the Southern Hemisphere is blowing toward the Northwest, what does that tell you about the pressure belts that caused that wind?
11. True or False: If there were no pressure belts, there would be no ocean currents. Explain your reasoning.
12. True or False: If the Earth were entirely covered with ocean, surface currents would never flow directly toward the poles.
13. Virginia Beach, Virginia (letter A on map to right) is at approximately the same latitude as Monterey, California (letter B). Are you more likely to need a wetsuit when you swim at Virginia Beach or when you swim at the beach in Monterey?
14. Why is Monterey generally drier than Virginia Beach?
15. What type of weather is generally found in high pressure belts?
16. Suppose a continent has no mountains and the west coast of the continent is wetter than the east coast. What is the most likely reason for this difference in precipitation?
17. The east side of a mountain range is covered with lush vegetation, while the west side is much more similar to desert. Explain why.
18. Suppose you have some water that is being heated. How can you tell if this added heat is latent heat?
19. Human sweat serves an important function. In order for sweat to serve this important function, does sweat need to take in latent heat or release latent heat?
20. The picture on the right shows some air passing over a mountain. If the wet and dry adiabatic rates are $5^{\circ}/1000\text{m}$ and $10^{\circ}/1000\text{m}$, respectively, draw clouds where they should be forming.
21. True or False: If the Earth continued to orbit the sun, but its axis no longer tilted, we would still experience seasons, but those seasons would be different. Explain your reasoning.
23. True or False: The equator is always the hottest, rainiest part of the Earth. Explain your answer.
24. Which way do Monsoon winds blow during late winter? From ocean to land or from land to ocean?

