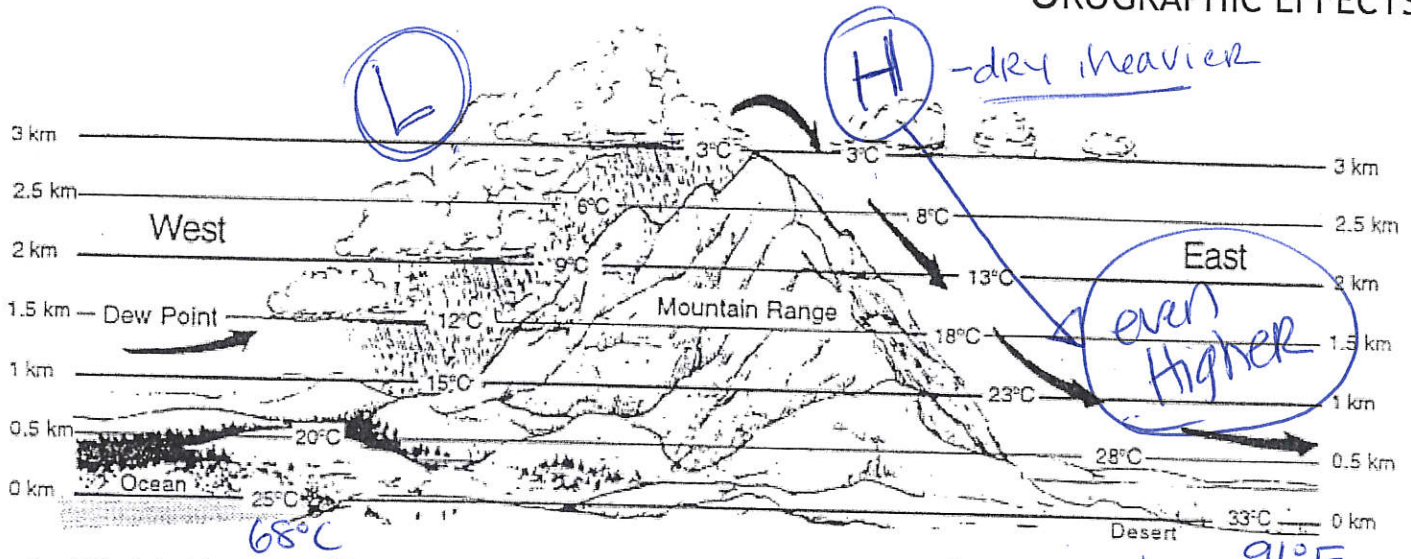


OROGRAPHIC EFFECTS



1. What is the prevailing wind direction in this location? west to east 91°F

2. Define each of the following in your own words:

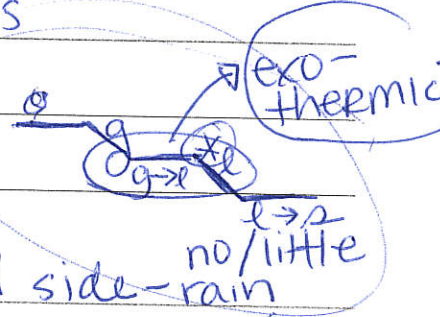
a. windward: the side from which the wind blows

b. leeward: the side to which the wind blows

c. adiabatic: cooling by expansion

d. condensation: occurs at right → temp → pressure → humidity

e. rain shadow: area just behind the leeward side - rain



3. Why are clouds forming on the western side of these mountains?

as moist ocean air is pushed up it cools, $H_2O(g) \rightarrow H_2O(l)$

4. What is the temperature at an altitude of 2 kilometers above sea level on the windward side? 9°C

5. What is the temperature at the same altitude (2 km) on the leeward side? 13°C

6. Why is the air warmer on the leeward side than at the same elevation on the windward side?

dense air sinks and warms up + since the air contains little H_2O vapor (high specific heat) it warms quickly

7. Describe the climate on the eastern side of these mountains. desert, chaparral prairie