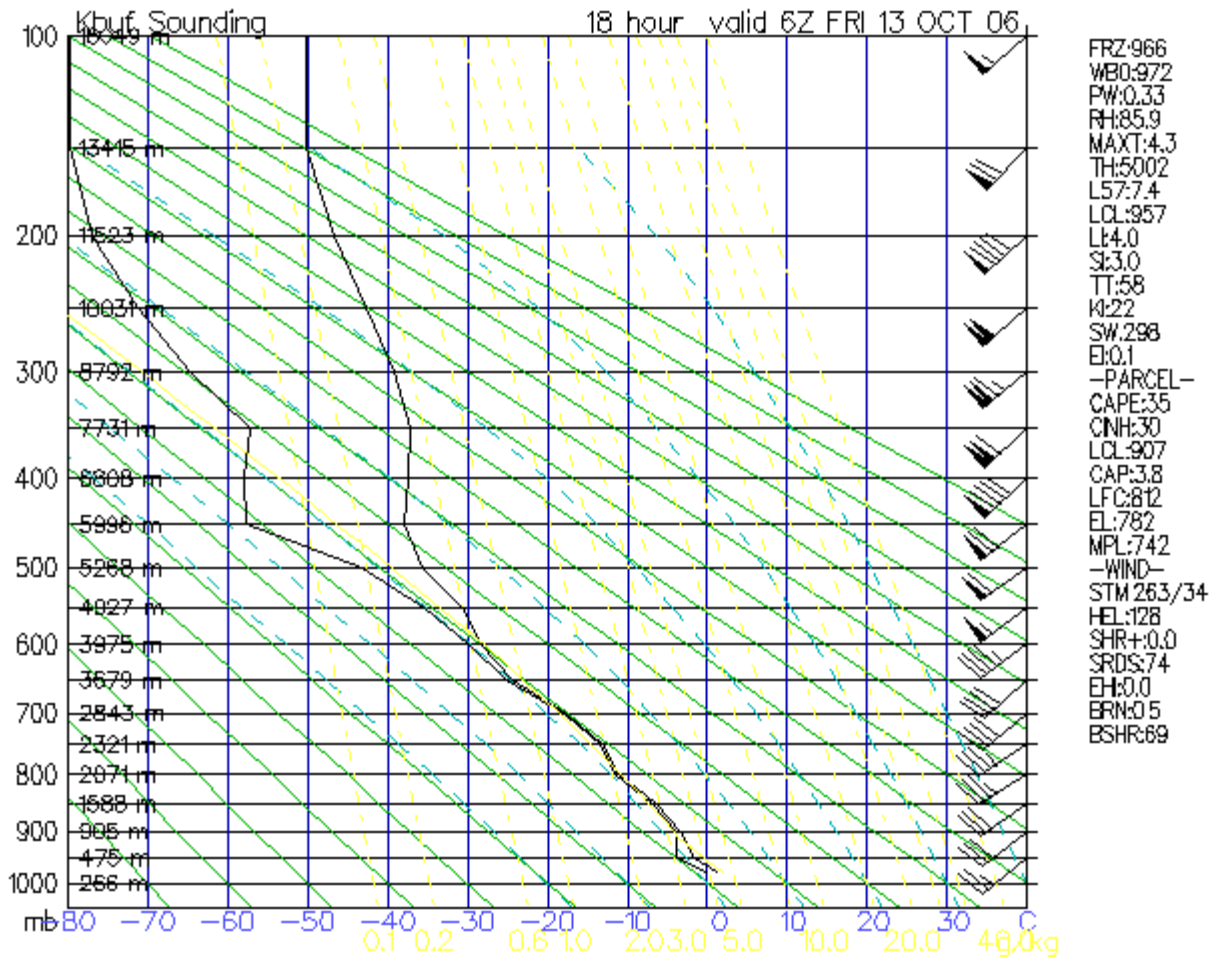


Name _____

Test Review: Vertical Atmosphere

1. Be able to interpret Stueve diagrams.



What is the location and time for which this sounding is valid? _____

What is the approximate air pressure at sea level? _____

How does air pressure, temperature, and dew point generally change with altitude? _____

How is the location of the tropopause determined? _____

How are the altitude at which clouds form determined? _____

What percentage of the atmosphere is found above and below the 200mb. level? _____

What was the general wind direction at most altitudes above this location? _____

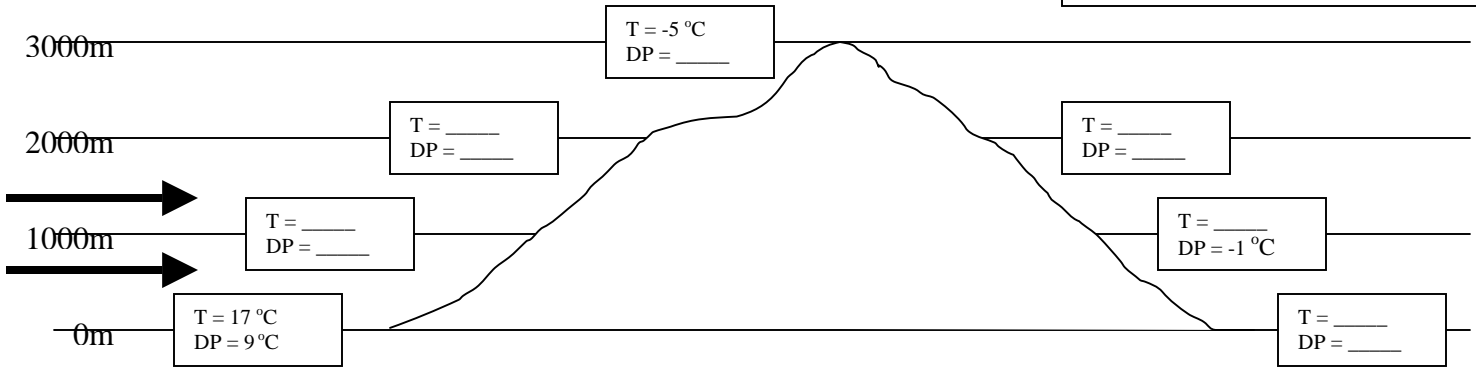
What was the greatest wind speed found above this location? _____

What is the environmental lapse rate from the surface to the 600mb. level? _____

2. Understand how to use lapse rates to calculate changes in the atmosphere caused by rising and sinking air.

Resource Information

Dry adiabatic lapse rate = $10^{\circ}\text{C}/1000\text{m}$
 Moist adiabatic lapse rate = $6^{\circ}\text{C}/1000\text{m}$
 Dry dew point lapse rate = $2^{\circ}\text{C}/1000\text{m}$
 Moist dew point lapse rate = $6^{\circ}\text{C}/1000\text{m}$



Fill in each missing air and dew point temperature.

How can the base altitude of a cloud be determined? _____

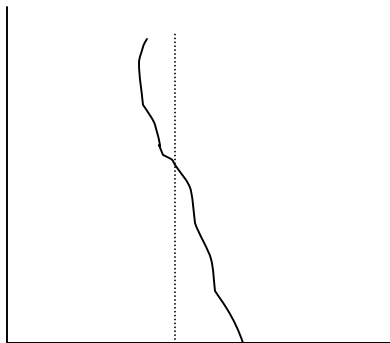
How does the temperature on the leeward side of a mountain range compare to that on the windward side? _____

How does the dew point on the leeward side of a mountain range compare to that on the windward side? _____

3. Be able to determine precipitation type from a simple vertical sounding.

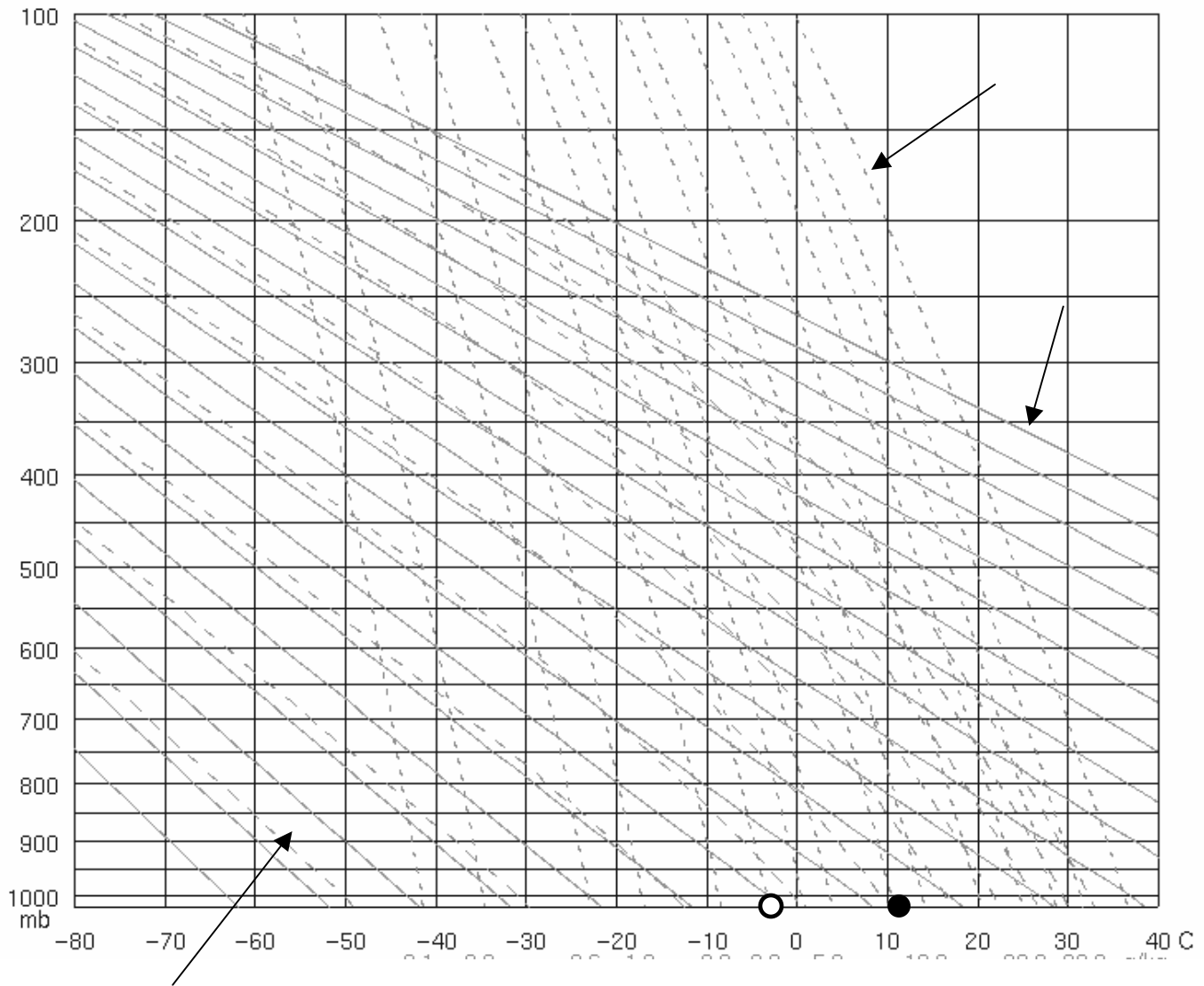








4. Use a Stüve diagram to predict changes in the atmosphere due to rising and sinking air.



Draw a line to show how the temperature will change as air rises until it becomes saturated.

Draw a line to show how the dew point will change as air rises until it becomes saturated.

Draw a line to show how the temperature will continue to change until it rises to the 400mb. level and the sinks back to the surface.

At what height will a cloud form? _____ mb.

How do you determine the precipitation type? _____