1. **Humidity** [2]
List what happens to the following moisture quantities if the temperature increases and no moisture is added to the air. [0.25 pts each]

   Saturation vapor pressure: _______________________________________________________

   Dew point temperature: _________________________________________________________

   Vapor pressure: __________________________________________________________________

   Relative humidity: __________________________________________________________________

List what happens to the following moisture quantities if water vapor is added to the air and the temperature does not change. [0.25 pts each]

   Saturation vapor pressure: _______________________________________________________

   Dew point temperature: _________________________________________________________

   Vapor pressure: __________________________________________________________________

   Relative humidity: __________________________________________________________________

2. **Fog**
   In each case below, name the type of fog (mixing fog, radiation/valley fog, and advection fog) and *briefly describe the process* that resulted in the fog. [3]

   A. On a *spring day* along the coast of southern Oregon there is steady westerly winds and fog that lasts through much of the day. [1]

   B. During the *winter* in Seattle, several days of rain are followed by *clear skies, colder temperatures, no wind,* and a fog that occurs during the night and part of the morning. [1]
C. Early in the fall, after the first very cold night, wisps of fog are seen rising off the surface of Lake Washington. [1]

3. Air Temperature Controls [4]
For the following pairs of locations, circle the location that best fits the description, and list the main temperature control in the comparison. You may have to look up locations to check the latitude, elevation and proximity to bodies of water (ignore small differences).

A. Which locations would generally have a cooler/colder summer?
   i. Pikes Peak, Colorado or Kansas City, Missouri
   ii. San Francisco, California or Richmond, Virginia
   iii. Bergen, Norway or the point at (62°N 45°W)

B. Which locations would you expect to have the largest annual temperature variation?
   i. El Paso, Texas or Billings, Montana
   ii. Portland, Oregon or Minneapolis, Minnesota