Synoptic Meteorology - Review Questions

1. Which of the following is not required for precipitation?
   a. condensation nuclei
   b. a source of lift
   c. moisture
   d. southerly winds

2. Sleet and freezing rain are caused by a cold layer of air aloft (TRUE, FALSE)?

3. Which one of these clouds can produce heavy precipitation?
   a. cumulonimbus
   b. stratocumulus
   c. altostratus
   d. nimbostratus

4. A mid-level cloud deck that has a heap-like appearance would be called?
   a. altostratus
   b. altocumulus
   c. cumulus
   d. stratocumulus

5. A high level cloud that forms in a layer would be called?
   a. cirrus
   b. cirrocumulus
   c. cirrostratus
   d. altostratus

6. Sleet will typically occur to the north of a warm front. (TRUE, FALSE)

7. An east wind means that the air is moving from west to east. (TRUE, FALSE)

8. A west wind means that the air is moving from west to east. (TRUE, FALSE)
9. The force that results from the rotation of the earth is called the ____________________ force.
   a. pressure gradient
   b. coriolis
   c. frictional
   d. convergence

10. The force that results from roughness of the earth's surface is called the ____________________ force.
    a. pressure gradient
    b. coriolis
    c. frictional
    d. divergence

11. The force that results from equalizing pressure differences is called the ____________________ force.
    a. pressure gradient
    b. coriolis
    c. frictional
    d. convergence

12. Air (diverges, converges) near high pressure and (diverges, converges) near low pressure.

Use the station plot, to the right, to answer questions 13 through 16.

13. The temperature at the station is
    a. 78°F
    b. 98°F
    c. 124°F
    d. 78°C

14. The dewpoint at the station is
    a. 78°F
    b. 98°F
    c. 124°F
    d. 78°C

15. The pressure at the station is
    a. 998 mb
    b. 978 mb
    c. 912.4 mb
    d. 1012.4 mb
16. The wind direction and speed is
   a. southeast at 15 kt
   b. northwest at 10 kt
   c. southeast at 20 kt
   d. northwest at 15 kt

17. Which cloud is not a high level cloud?
   a. Cirrocumulus
   b. Cirrostratus
   c. Cirronimbus
   d. Cirrus

18. Which type of clouds is not a low level cloud?
   a. Cumulonimbus
   b. Cumulus
   c. Cirrocumulus
   d. Stratocumulus

19. Which type of cloud begins as a middle layer cloud, but as it develops, the base of the cloud lowers in the low-level clouds.
   a. Altostratus
   b. Stratus
   c. Cirrostratus
   d. Nimbostratus

20. Which type of cloud produces thunderstorms?
   a. Nimbostratus
   b. Cumulonimbus
   c. Nimbocumulus
   d. Altostratus