1. What is the approximate dewpoint temperature if the dry-bulb temperature is 11°C and the wet-bulb temperature is 8°C?
   (1) 1°C  (2) 5°C  (3) 3°C  (4) −13°C

2. What is the difference between the dry-bulb temperature and the wet-bulb temperature when the relative humidity is 28% and the dry-bulb temperature is 0°C?
   (1) 11°C  (2) 2°C  (3) 28°C  (4) 4°C

3. A parcel of air has a dry-bulb temperature of 24°C and a relative humidity of 55%. What is the dewpoint of this parcel of air?
   (1) 6°C  (2) 14°C  (3) 24°C  (4) 29°C

4. What is the dewpoint temperature when the dry-bulb temperature is 12°C and the wet-bulb temperature is 4°C?
   (1) −9°C  (2) 19°C  (3) 8°C  (4) 10°C

5. A student used a sling psychrometer to measure the humidity of the air. If the relative humidity was 65% and the dry-bulb temperature was 10°C, what was the wet-bulb temperature?
   (1) 5°C  (2) 7°C  (3) 3°C  (4) 10°C

6. When the dry-bulb temperature is 22°C and the wet-bulb temperature is 13°C, the relative humidity is
   (1) 10%  (2) 33%  (3) 41%  (4) 59%

7. A sling psychrometer shows a dry-bulb reading of 14°C and a wet-bulb reading of 9°C. What are the dewpoint and the relative humidity?
   (1) −10°C and 16%  (2) −10°C and 50%  (3) 4°C and 16%  (4) 4°C and 50%

8. Which weather change usually occurs when the difference between the air temperature and the dewpoint temperature is decreasing?
   (1) The amount of cloud cover decreases.  (2) The probability of precipitation decreases.
   (3) The relative humidity increases.  (4) The barometric pressure increases.

9. A parcel of air has a dry-bulb temperature of 16°C and a wet-bulb temperature of 10°C. What are the dewpoint and relative humidity of the air?
   (1) −5°C dewpoint and 33% relative humidity  (2) −5°C dewpoint and 45% relative humidity
   (3) 4°C dewpoint and 33% relative humidity  (4) 4°C dewpoint and 45% relative humidity

10. Which event usually occurs when air is cooled to its dewpoint temperature?
   (1) freezing  (2) evaporation  (3) condensation  (4) transpiration

11. The relative humidity is 100% when
   (1) the atmosphere is relatively dry  (2) the air is at its saturated vapor pressure
   (3) the air pressure is high  (4) transpiration equals evaporation

12. What is the approximate dewpoint?
   (1) 5.0°C  (2) 11°C  (3) 15°C  (4) 20.0°C
13. According to the graph below, what happens to the density of a mass of air when its water vapor content increases?

(1) Density decreases.
(2) Density increases.
(3) Density remains the same.

14. As a sample of very moist air rises from sea level to a higher altitude, the probability of condensation occurring in that air sample will

(1) decrease
(2) increase
(3) remain the same

15. Condensation will most likely occur in a given volume of air when the air is

(1) saturated and contains no condensation nuclei
(2) saturated and contains condensation nuclei
(3) unsaturated and contains no condensation nuclei
(4) unsaturated and contains condensation nuclei

16. Which atmospheric conditions are necessary for condensation?

(1) saturated air and dewpoint temperature much lower than air temperature
(2) unsaturated air and dewpoint temperature much higher than air temperature
(3) saturated air and equal dewpoint and air temperatures
(4) unsaturated air and equal dewpoint and air temperatures

17. Which statement best explains why a cloud is forming as shown in the diagram below?

(1) Water vapor is condensing.
(2) Moisture is evaporating.
(3) Cold air rises and compresses.
(4) Warm air sinks and expands.
Answer Key

1. 2
2. 4
3. 2
4. 1
5. 2
6. 2
7. 4
8. 3
9. 4
10. 3
11. 2
12. 2
13. 1
14. 2
15. 2
16. 3
17. 1