

Answers

1. If the air temperature equals 35° C, what is the water vapor capacity?
Approximately 37 g/kg
2. If the water vapor content equals 25g/kg, what is the dew point temperature?
Approximately 28° C
3. If the water vapor capacity equals 10 g/kg, what is the air temperature?
Approximately 14° C
4. If the dew point temperature equals 0° C, what is the water vapor content?
Approximately 4 g/kg
5. If the air temperature equals 20° C, and the water vapor content equals 5 g/kg, what is the dew point temperature?
Approximately 4° C
6. If the air temperature equals 18° C, and the dew point temperature equals 15° C, what is the water vapor content?
Approximately 11 g/kg
7. If the water vapor capacity equals 23 g/kg, and the dew point temperature equals 5° C, what is the air temperature?
Approximately 27° C
8. If the water vapor content equals 12 g/kg, and the air temperature equals 25° C, what is the dew point temperature?
Approximately 17° C
9. If the water vapor content equals 8 g/kg, and the water vapor capacity equals 16 g/kg, what is the relative humidity?
 $RH = \text{content/capacity} = 8/16 = 0.5 = 50\%$
10. If the air temperature equals 20° C, and the water vapor content equals 8 g/kg, what is the relative humidity?
Capacity = 15g/kg
 $RH = \text{content/capacity} = 8/15 = 0.53 = 53\%$
11. If the water vapor capacity equals 25 g/kg, and the dew point temperature equals 10° C, what is the relative humidity?
Content = 8 g/kg
 $RH = \text{content/capacity} = 8/25 = 0.32 = 32\%$
12. If the air temperature equals 23° C, and the dew point temperature equals 10° C, what is the relative humidity?
Content = 8 g/kg (use dew point temperature)
Capacity = 18 g/kg (use air temperature)
 $RH = \text{content/capacity} = 8/18 = 0.44 = 44\%$
13. If the relative humidity equals 25%, and the air temperature equals 20° C, what is the water vapor capacity?
Capacity = 15 g/kg (use air temperature; relative humidity is irrelevant)
14. If the relative humidity equals 25%, and the water vapor content equals 10 g/kg, what is the dew point temperature?
Approximately 13 ° C (use water vapor content; relative humidity is irrelevant)