

ATM 209
Skew-T Practice #1

Using your Skew-T, solve the following problems:

1. $T = 20^{\circ}\text{C}$, $T_d = 10^{\circ}\text{C}$ at 1000 mb.

$w = 7.8\text{ g/kg}$ $w_s = 15.0\text{ g/kg}$ $\text{RH} = 52.0\%$

2. $T = 14^{\circ}\text{C}$, $T_d = -2^{\circ}\text{C}$ at 850 mb.

$w = 3.9\text{ g/kg}$ $w_s = 12.0\text{ g/kg}$ $\text{RH} = 32.5\%$

3. $T = 23^{\circ}\text{C}$, $T_d = 22^{\circ}\text{C}$ at 980 mb.

$w = 17.5\text{ g/kg}$ $w_s = 18.5\text{ g/kg}$ $\text{RH} = 94.6\%$

4. $T = 0^{\circ}\text{C}$, $T_d = -31^{\circ}\text{C}$ at 560 mb.

$w = 0.5\text{ g/kg}$ $w_s = 7.0\text{ g/kg}$ $\text{RH} = 7.1\%$

5. $T = 38^{\circ}\text{C}$, $T_d = -3^{\circ}\text{C}$ at 1010 mb.

$w = 3.0\text{ g/kg}$ $w_s = 44.0\text{ g/kg}$ $\text{RH} = 6.8\%$

6. $w = 6\text{ g/kg}$, $w_s = 10\text{ g/kg}$ at 850 mb.

$T = 11^{\circ}\text{C}$ $T_d = 4^{\circ}\text{C}$ $\text{RH} = 60\%$

7. $w = 1.4\text{ g/kg}$, $w_s = 5.0\text{ g/kg}$ at 1000 mb.

$T = 4^{\circ}\text{C}$ $T_d = -13^{\circ}\text{C}$ $\text{RH} = 28\%$

8. $w = 9\text{ g/kg}$, $w_s = 28\text{ g/kg}$ at 950 mb.

$T = 29.5^{\circ}\text{C}$ $T_d = 11.5^{\circ}\text{C}$ $\text{RH} = 32.1\%$

9. $\text{RH} = 50\%$, $w = 4.0\text{ g/kg}$ at 750 mb.

$T = 6^{\circ}\text{C}$ $w_s = 8.0\text{ g/kg}$ $T_d = -3^{\circ}\text{C}$

10. $\text{RH} = 100\%$, $T = -15^{\circ}\text{C}$ at 600 mb.

$T_d = -15^{\circ}\text{C}$ $w = 2.0\text{ g/kg}$ $w_s = 2.0\text{ g/kg}$