Meteorology Test Answer Key

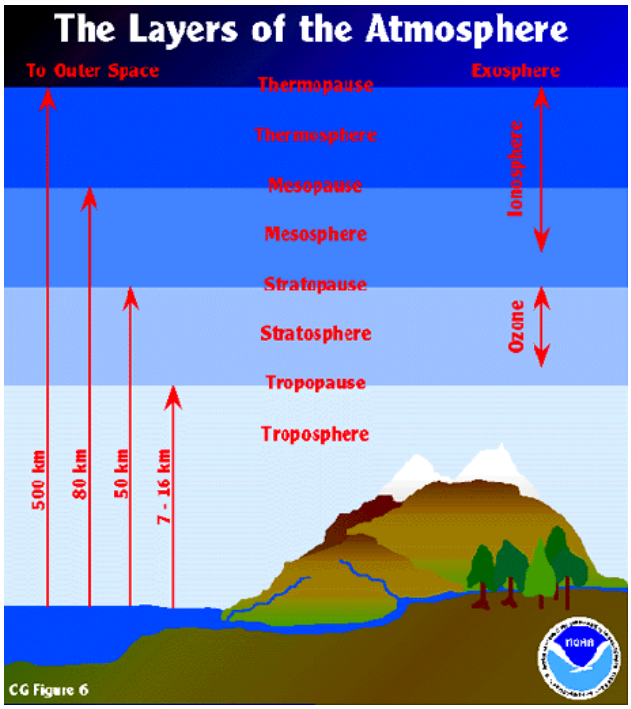
Teams are ranked by number of points correct. Ties will be broken by number of tiebreaker question points correct, then by prime numbered questions in reverse order. If there is still a tie, it will be broken by non-prime questions in order.

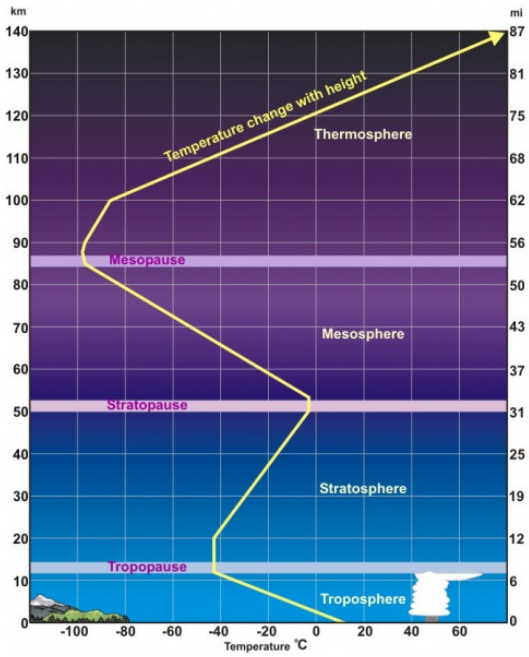
DO NOT ATTATCH TO TEST

1. [3 points] Moisture, Source of Lift (such as a front or mountain), Atmospheric instability (caused by temperature variations).

2. [1 point] Released

3. [Layers 8 points, curve 4]





4. [2 points (one for each type of fog)] In advection fog, wind moves moist air over a cool surface causing cooling. In upslope fog, wind pushes moist air up a mountain; the air cools adiabatically. In both, the air cools to its dewpoint and is saturated; when the air cools more, condensation occurs.

5. [3pts, 2 for the origin, 1 for the percent]
Oxygen came from photosynthesis
21% (only accept this number)

6. [1pt] The leading edge of a thunderstorm's cold downdraft

7. [2 pts] Cold fronts move faster because the high-density cold air can remove the low-density warm air faster then the warm air could remove the cold air

8. [2 pts] Chlorofluorocarbons [CFC] (also accept chlorine) cause the destruction. It is most prominent over the poles.

9 [2 pts] Winter. The temperature contrast between north and south is most prominent.

10. [1 pt] Microwaves

11. [1 pt] d) pressure

12 [2 pts] 1013.25mb (no credit if not exact or without unit)

13. [1 pt] 100 Pa = 1 mb

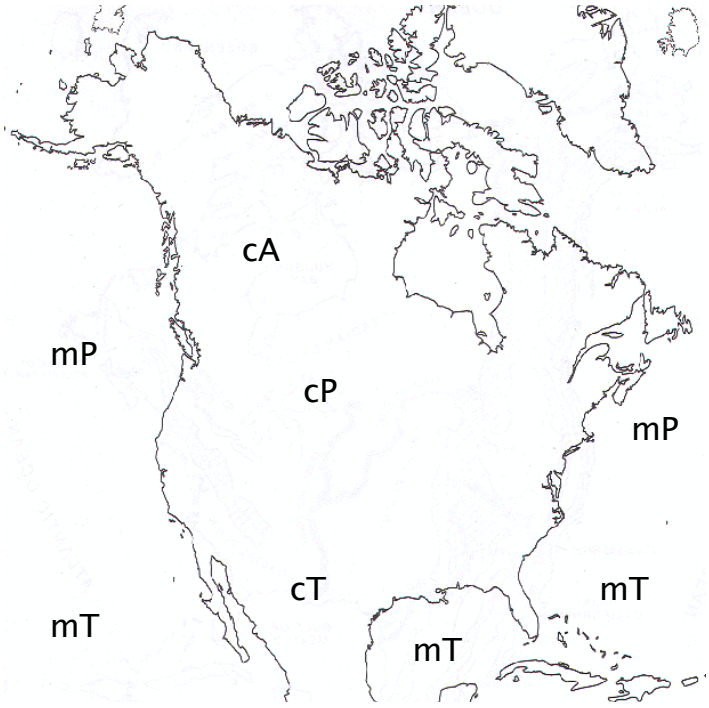
14. [2 pts] Thunderstorms, 

Unstable air / Instability

15. [7 pts] Thunderstorm symbol must be exact (direction of lines are left, right, left, arrow)

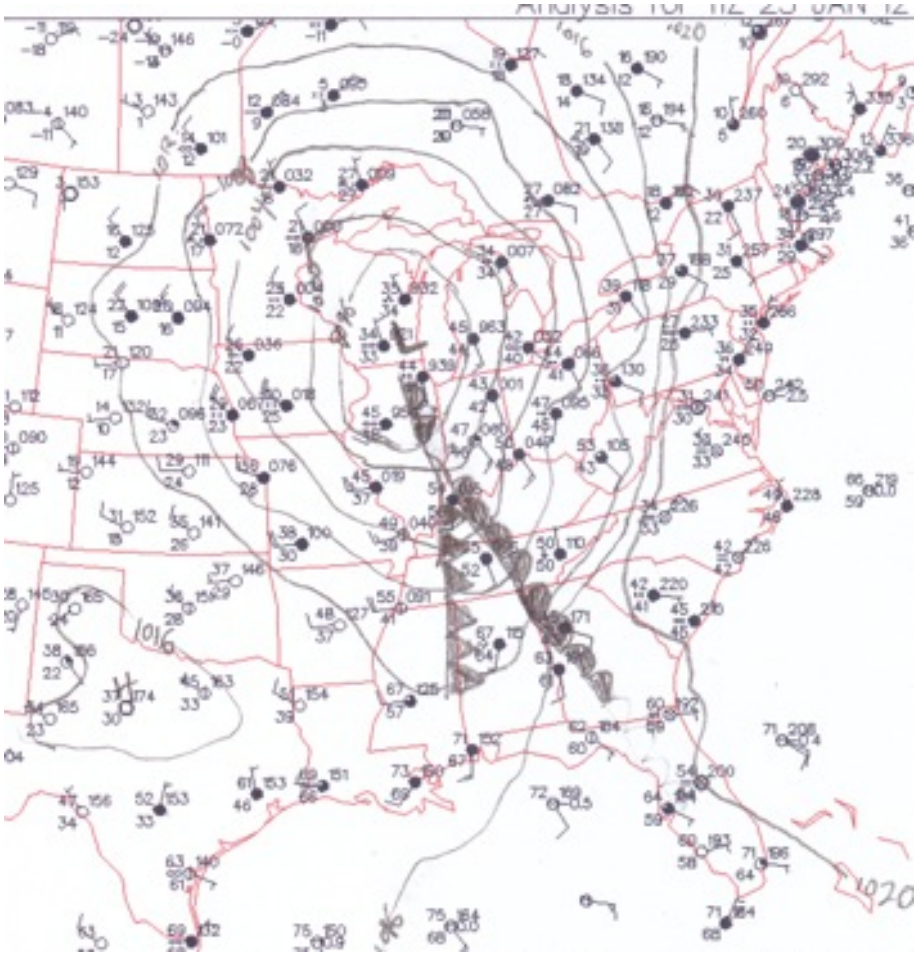
16. [2 pts] Solar radiation is still coming in more that IR radiation is leaving Earth's surface for a few hours after noon, causing the temperature to increase during that time.

17. [5 pts]



18. [3 pts] When saturated air cools (by the moist adiabatic lapse rate) water vapor condenses, releasing latent heat, warming the air.

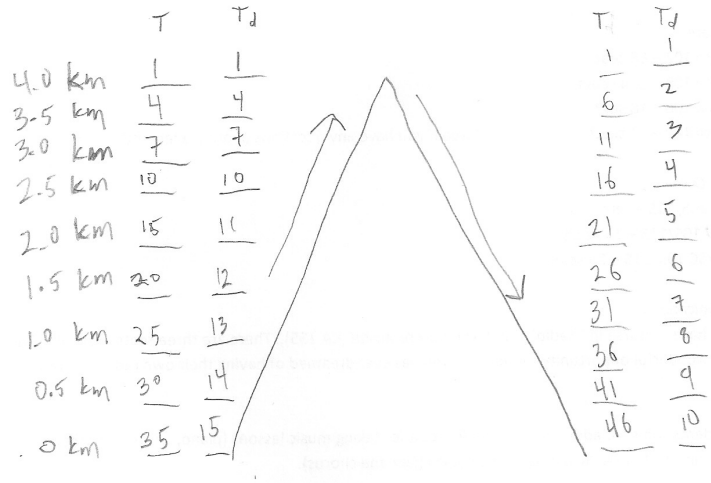
19. [6 pts isobars, 2 points high/low pressure, 2 points for each of 3 fronts. Total 14 points]



20. [2 pt] Argon

21.

A) [2 pts] 2.5 km
B) [1 pt] Yes
C) [2 pts] 46°C



22. [1 pt] 3 miles

23. [2 pts] Hook echo, tornado.

24. [1 pt] Cirrocumulus

25. [3 pts] Cumulus humilis have a height smaller than their width, mediocris have heights similar to width, and congestus have heights greater than their width.

26. [5 pts]
A) A, C
B) B
C) None (not left blank)
D) D

T1. [1 tiebreaker pt] Wilma

T2. [2 tiebreaker pts] The student should write that the greenhouse gases absorb IR radiation from Earth and radiate some back to Earth and some into space, similar to what a blanket does with heat from your body.

T3. [1 tiebreaker pt] Hydrogen