

Meteorology Answer Sheet

Holt Invitational 2017

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|---------------|-------------|-------------|
| 1. _B_____ | 13. _D_____ | 25. _A_____ |
| 2. _C_____ | 14. _A_____ | 26. _A_____ |
| 3. _D_____ | 15. _D_____ | 27. _C_____ |
| 4. _C_____ | 16. _A_____ | 28. _A_____ |
| 5. _B_____ | 17. _B_____ | 29. _D_____ |
| 6. _A_____ | 18. _A_____ | 30. _C_____ |
| 7. _B_____ | 19. _D_____ | 31. _B_____ |
| 8. _D_____ | 20. _B_____ | 32. _A_____ |
| 9. _C_____ | 21. _C_____ | 33. _B_____ |
| 10. _A_____ | 22. _B_____ | 34. _B_____ |
| 11. _B_____ * | 23. _C_____ | 35. _E_____ |
| 12. _A_____ | 24. _F_____ | 36. _B_____ |

* Tiebreaker Question

Label the type of fronts shown below:

_____ Cold Front _____

_____ Warm Front _____

Given the following weather map of the beginning stage of a mid-latitude cyclone, please fill in the missing labels:

A. ___Cool_____

B. ___Cold_____

C. ___Warm_____

D. ___Cold_____

E. ___Warm_____

Given the following weather map of a mid-latitudinal cyclone, please fill in the missing labels:

Where in the life cycle is this cyclone (circle one): **Early** **Middle**

Late

A. __Occluded__

B. __Cool__

C. __Cold__

D. __Warm__

Look at the *Storm Events Database -February 23-24 Tornado Outbreak*. What classification would be given to this tornado according to the Fujita scale?

_____F2_____

On the *Best Track for Hurricane Patricia, 20-24 October 2015* and using the Saffir-Simpson Scale, label the category of hurricane in the stage column from October 22 at 0600 (labeled hurricane) to October 24 at 0000. (Helpful hint: 1 knot = 1.15 mph) **Tiebreaker #2**

Why does the intensity of a hurricane diminish rapidly when it moves onto land?

Warm water is most important key as it is water that powers the hurricane. As water vapor (water in the gaseous state) rises, it cools. In the process of condensation, heat is released. This heat warms the atmosphere making the air lighter still which then continues to rise into the atmosphere. As it does, more air moves in near the surface to take its place which is the strong wind we feel from these storms. Therefore, once the eye of the storm moves over land it will begin to weaken rapidly, not because of friction, but because the storm lacks the moisture and heat sources that the ocean provided. This depletion of moisture and heat hurts the tropical cyclone's ability to produce thunderstorms near the storm center. Without this convection, the storm rapidly diminishes.