

Student # \_\_\_\_\_

METEOROLOGY

1. Calculate the "Wind Chill":
  - a. \_\_\_\_\_ Temp. is 15 F and winds are 36 mph.
  - b. \_\_\_\_\_ Temp. is (-) 25 F and winds are 25 mph.
2. \_\_\_\_\_ compares the combined effects harmful effects of high humidity and high temperature on the body.

---

3. \_\_\_\_\_ are lines connecting points of equal temperature.
4. Calculate the mean daily temperature, and the temperature range for the day using the following temperatures: minimum temperature was 22 F. and maximum temperature was 56 F.
  - a. Mean Daily Temperature \_\_\_\_\_
  - b. Temperature Range \_\_\_\_\_
5. Which area of the world holds the record for:
  - a. Coldest temperature \_\_\_\_\_ Place \_\_\_\_\_
  - b. Warmest temperature \_\_\_\_\_ Place \_\_\_\_\_
6. Calculate the "Heat Stress Index for the following:
 

Heat Stress Index	Temperature	Humidity
a. _____	85 F	85%
b. _____	90 F	90%

Multiple Choice

- \_\_\_ 7. Which type of thermometer responds most rapidly to changes in temperature? a. bimetal b. Bourdon c. liquid in glass d. electrical
- \_\_\_ 8. Which type of thermometer does your home heating system use to regulate your home's temperature? a. bimetal b. Bourdon c. liquid in glass d. electrical
- \_\_\_ 9. In most parts of the United States, the coldest temperatures occur in a. November and December b. December and January c. January and February d. February and March
- \_\_\_ 10. On a clear spring day, the warmest hour is most likely to be a. 9 am b. 12 noon c. 3 pm d. 6 pm

- \_\_\_ 11. For every 100 meter increase in elevation, the moist air temperature normally a. drops .6 C b. rises .6 C  
c. drops 1.0 C d. rises 1.0 C
- \_\_\_ 12. The air cools most rapidly during a. cloudy days  
b. cloudy nights c. sunny days d. clear nights
- \_\_\_ 13. In most parts of the United States, the warmest temperatures occur in a. May and June b. June and July c. July and August  
d. August and September
- 
- \_\_\_ 14. The term "sensible" temperature a. is directly related to how much sense a person has b. is the temperature which your body feels c. is warmer on windy days d. is the same as the dry bulb temperature
- \_\_\_ 15. Most of the radiation from the sun is in the form of a. short-wave length radiation b. long wave length radiation  
c. ultra-violet radiation d. can't say that I rightly know
- \_\_\_ 16. Assume that we have a 100 foot tower equipped with temperature sensors at the surface and at 10 foot intervals thereafter. The smallest daily temperature range would occur a. at the surface b. at 20 feet c. at 50 feet d. at 100 feet
- \_\_\_ 17. Wearing a coat in the winter on nights when wind chill is predicted to be - 65 degrees fahrenheit is most likely a precaution a. to reduce the amount of heat lost to the atmosphere b. to increase the amount of heat lost by conduction c. to protect your body from the chilling wind
- \_\_\_ 18. The terms "January Thaw" and "Indian Summer" are examples of a. temperature inversions b. temperature abnormalities  
c. "Fancy Dan" terms used by morons which have no real meaning d. temperature singularities
- \_\_\_ 19. The instrument which measures the amount of incoming solar radiation is known as a (an) a. pyrhelometer b. anemometer  
c. barometer d. thermometer
- \_\_\_ 20. The term used to indicate that temperature increases with altitude in the troposphere is a. temperature inversion  
b. temperature abnormalities c. adiabatic lapse rate d. temperature singularities
- \_\_\_ 21. Concerning the annual range of temperature, which of the following statements are true? a. greatest range occurs over southern hemisphere continents b. greatest range occurs near the equator c. smallest range occurs over "low latitude" oceans d. smallest range occurs over "middle latitude", northern hemisphere land masses
- \_\_\_ 22. On a clear day, the Sun's rays are strongest at about a. sunrise b. 12 noon c. 3 pm d. sunset

- \_\_\_ 23. The effects of daily surface temperature changes are generally felt a. throughout the troposphere b. throughout the troposphere , stratoshpere, and mesosphere c. only in the lower layers of the troposphere
- \_\_\_ 24. The special term given to solar radiation from the Sun which strikes the Earth's surface is a. insolation b. radiation c. insunlation d. insulation
- \_\_\_ 26. Which of the following illustrates improper siting of a thermometer? a. location of over a grass surface b. location at about 4 feet above the ground c. enclosure in a white, ventilated shelter d. location over an asphalt parking lot
- \_\_\_ 27. The transfer of heat through the movement of currents in a fluid is a. conduction b. convection c. advection d. transpiration e. radiation f. insolation
- \_\_\_ 28. In the northeastern United States, the north-south temperature gradient is steepest a. during the summer b. during the winter c. about the same all year long, even though there is a large difference in actual temperature
- \_\_\_ 29. The maximum possible energy is received by a surface when the Sun's rays strike at an angle of a. 0 degrees b. 23.5 degrees c. 45 degrees d. 90 degrees
- \_\_\_ 30. Alcohol is used in preference to mercury in minimum thermometers because a. it has a lower freezing point b. it has a higher boiling point c. it contracts more uniformly d. it can be dyed for better visibilty
- \_\_\_ 31. Compared with nearby oceans, continental areas are usually a. cooler in the winter b. cooler in the summer c. warmer in the winter d. approximately the same temperature
- \_\_\_ 32. The term "ambient temperature" refers to a. the temperature of the air b. the temperature of the air with water vapor removed c. the temperature which your body feels