

## CHAPTER 10 Review Questions

**MULTIPLE CHOICE.** Choose the one alternative that best completes the statement or answer the question.

1. What does the term mesocyclone refer to in reference to a tornado?
  - A) a false-alarm tornado warning
  - B) a high-altitude tornado
  - C) a very large tornado
  - D) the rotation motion of the parent thunderstorm
2. The terms leader, flash, and stroke are used when describing:
  - A) the stages of a thunderstorm.
  - B) the passage of a hurricane.
  - C) lightning.
  - D) a tornado.
  - E) squall line formation.
3. Which of the following should have the steepest pressure gradient?
  - A) typhoon
  - B) hurricane
  - C) tornado
  - D) middle-latitude cyclone
4. Which of the following is likely during the mature stage of a thunderstorm?
  - A) lightning
  - B) light winds
  - C) no precipitation
  - D) light precipitation
5. Which type of lightning is least likely?
  - A) cloud-to-cloud
  - B) cloud-to-Earth
  - C) within the same cloud
6. Generally there are three stage is involved in the development of thunderstorms. They are:
  - A) cumulus stage, adolescent stage, and dissipating stage.
  - B) cumulus stage, dissipating stage, and deconstructing stage.
  - C) cumulus stage, mature stage, and dissipating stage.
  - D) cumulus stage, mature stage, and deconstructing stage.
7. Because of the tremendous pressure gradient associated with a strong tornado, maximum winds approach \_\_\_\_\_miles per hour.
  - A) 300
  - B) 100
  - C) 600
  - D) 1000

8. Over the last 30 years, which of these has caused the most weather related deaths in the U.S.?  
(pre Katrina)

- A) lightning
- B) tornadoes
- C) floods
- D) hurricanes

9. Why do most tornadoes in the central U.S. occur during the spring months?

- A) Divergence of air aloft is greatest
- B) Solar energy is a maximum.
- C) Upper-air temperature are warmest
- D) Surface air is most humid.
- E) Air-mass contrasts are greatest

10. Conventional radar measures

- A) raindrop and snowflake motion.
- B) rainfall intensity.
- C) raindrop size.
- D) raindrop motion.
- E) cloud droplet numbers.

11. Why is very humid air near the surface a necessary ingredient for severe thunderstorms?

- A) High humidity makes the air more dense
- B) More latent heat is then available as energy for the storm.
- C) High humidity strengthens the cold front
- D) High humidity makes the rising air cool more rapidly.
- E) Lapse rates are larger in humid air.

12. Thunderstorm tops most likely occur

- A) in the middle stratosphere.
- B) in the lower troposphere.
- C) near the tropopause.
- D) in the mesosphere.

13. The diameter of a typical tornado funnel cloud would be

- A) 200 meters.
- B) 2500 meters.
- C) 50 meters.
- D) 4000 meters.
- E) 1000 meters.

14. Which of the following statements is not true of tornadoes?

- A) usually occur along the warm front of a midlatitude cyclone
- B) generally move from the southwest toward the northeast
- C) associated with cumulonimbus clouds
- D) occur most frequently in the spring of the year
- E) most common in the Midwest and Great Plains

15. Which of the numbers listed below best represents the percentage of thunderstorms that produce tornadoes?

- A) nearly 25 percent
- B) about 10 percent
- C) slightly more than 50 percent
- D) less than 1 percent

16. Of the following states, which is struck by the largest number of tornadoes?

- A) North Dakota
- B) North Carolina
- C) Ohio
- D) New Mexico
- E) Oklahoma

**TRUE/FALSE.** Write T if the statement is true and 'F if the statement is false.

\_\_\_\_ 17. Radar detects a thunderstorm by measuring the electrical discharges within the cloud.

\_\_\_\_ 18. A tornado warning is issued by the National Weather Service when conditions are favorable for tornado development.

\_\_\_\_ 19. Destruction caused by a tornado is primarily due to the large pressure drop as the funnel passes over.

\_\_\_\_ 20. A mesocyclone often precedes tornado development.

\_\_\_\_ 21. A tornado watch is issued by the National Weather Service after a tornado has been sighted in an area.

\_\_\_\_ 22. The anvil top of a thunderstorm often marks the beginning of the stratosphere.

\_\_\_\_ 23. Divergence in the upper-level jet stream hinders the formation of severe thunderstorms.

\_\_\_\_ 24. Tornadoes form in association with tall cumulonimbus clouds.

\_\_\_\_ 25. The central United States sees more tornadoes than any other region in the world.