

## **Chapter 2**

### **Where in the Geospatial World Are You?**

1. Geospatial technology rarely links geospatial data to nonspatial data.
  - a. True
  - \*b. False
2. For geospatial technology to work, every location on Earth must be:
  - a. inhabited by both humans and vegetation.
  - \*b. identified and measured.
  - c. mapped and named.
  - d. imposed on a gridlike system.
3. A reference surface or model of Earth, used for plotting locations across the globe, is called a(n):
  - a. geoid.
  - b. ellipsoid.
  - \*c. datum.
  - d. model.
4. Earth is perfectly round.
  - a. True
  - \*b. False
5. Geodesy is the science of measuring Earth's:
  - a. gravitational pull.
  - b. weight.
  - c. size.
  - \*d. shape.
6. One datum is used for all measurements of Earth's locations.
  - a. True
  - \*b. False
7. Which of the following is NOT a commonly used datum?
  - \*a. DAT86
  - b. WGS84
  - c. NAD83
  - d. NAD27
8. Which datum is used by the Global Positioning System?
  - a. WGS04
  - \*b. WGS84
  - c. NAD83
  - d. NAD27
9. Measurements made from one datum may not precisely match the measurements made from another datum.
  - \*a. True

b. False

10. Lines of latitude run in an east-to-west direction around the globe.

\*a. True

b. False

11. The key reference point for lines of latitude is the:

a. International Date Line.

b. Greenwich Mean.

c. Prime Meridian.

\*d. Equator.

12. Lines of longitude are also known as parallels.

a. True

\*b. False

13. The key reference point for lines of longitude is the:

a. International Date Line.

b. Tropic of Cancer.

\*c. Prime Meridian.

d. Equator.

14. The Equator and the Prime Meridian both have a value of \_\_\_\_\_ in geographic coordinate systems.

\*a. zero

b. 30

c. 90

d. 180

15. Lines of longitude are closer together at the poles and farthest apart at the Equator.

\*a. True

b. False

16. In general, GCS measurements are made in:

a. feet.

b. miles.

\*c. DMS.

d. meters.

17. A degree is composed of \_\_\_\_ minutes, and a minute is composed of \_\_\_\_ seconds.

a. 10; 30

b. 40; 90

\*c. 60; 60

d. 90; 180

18. Negative values can be used when making measurements \_\_\_\_\_ of the Equator and/or \_\_\_\_\_ of the Prime Meridian.

\*a. south; west

- b. east; north
- c. north; south
- d. west; north

19. When making measurements on a sphere, the distance between two points is referred to as the:

- a. prime distance.
- b. equatorial distance.
- \*c. great circle distance.
- d. circumference.

20. Every time zone is (in theory) \_\_\_\_ degrees wide.

- a. 5
- b. 10
- \*c. 15
- d. 20

21. If it is 1:00 pm in Greenwich, England, what time is it in Madagascar (3 time zones to the East)?

- a. 10:00 am
- b. 11:00 am
- \*c. 4:00 pm
- d. 3:00 pm

22. Time zones strictly follow lines of longitude, regardless of the country's size or location.

- a. True
- \*b. False

23. The only representation of the world that could accurately capture all its features is a globe.

- \*a. True
- b. False

24. All flat maps of the world have some distortion built into them.

- \*a. True
- b. False

25. In a Mercator projection, \_\_\_\_\_ remain intact but \_\_\_\_\_ can be grossly distorted.

- a. positions; lines of latitude
- \*b. shapes; sizes
- c. measurements; the Equator
- d. time zones; shapes

26. A map's distortion is minimized at:

- \*a. the point of tangency.
- b. the Equator.
- c. the Prime Meridian.
- d. the International Date Line.

27. Which of the following is NOT one of the three main "developable surfaces" used in creating world maps?

- a. azimuthal
- b. conical
- c. cylindrical
- \*d. rhomboid

28. Which type of projection is commonly used to create maps of the United States and other east-west trending areas?

- a. Transverse Mercator
- b. UTM
- c. Azimuthal
- \*d. Lambert Conformal Conic

29. A Transverse Mercator projection is more likely to be used for north-south trending areas than for east-west trending areas.

- \*a. True
- b. False

30. The UTM is used for mapping Earth's polar zones.

- a. True
- \*b. False

31. The Universal Transverse Mercator grid system divides the world into \_\_\_\_ zones.

- a. 12
- b. 24
- c. 50
- \*d. 60

32. The unit of measurement used by the UTM system is:

- \*a. meters.
- b. feet.
- c. degrees, minutes, and seconds.
- d. miles.

33. The false northing value of \_\_\_\_\_ is used in UTM to avoid negative values in the Southern Hemisphere.

- a. 10 miles.
- b. 1,000 nautical miles.
- c. 10,000 meters.
- \*d. 10,000,000 meters.

34. In the UTM system, each UTM zone has its own central meridian.

- \*a. True
- b. False

35. The maximum size of a zone in the UTM system is 10 million meters.

- a. True
- \*b. False

36. SPCS is a coordinate system used for the data of which region?

- a. Europe
- \*b. the United States
- c. China
- d. the Russian Federation

37. SPCS zones are formed by following state or county boundaries.

- \*a. True
- b. False

38. SPCS uses DMS for its measurements.

- a. True
- \*b. False

39. Which U.S. state is composed of more than one SPCS zone?

- a. New Jersey
- b. Montana
- \*c. Texas
- d. Delaware

40. A false easting is a measurement made east or west of an imaginary meridian set up for a particular zone in the UTM system.

- \*a. True
- b. False