Student name:_____

1) Which of the following is the standard projection for online mapping?

A) Lambert conformal conic

B) Mercator

C) Equidistant conic

D) Web Mercator

2) The secant case means that a cylindrical projection has _____ line(s) of tangency:

A) 3

B) 1

C) 2

3) Explain the difference between the standard line and the central line.

4) Which of the following statements is true?

A) Meridians are lines for measuring location in the N-S direction, and parallels are lines for measuring location in the E-W direction.

B) Meridians are points for measuring location in the E-W direction, and parallels are points for measuring location in the N-S direction.

C) Meridians are points for measuring location in the N-S direction, and parallels are points for measuring location in the E-W direction.

D) Meridians are lines for measuring location in the E-W direction, and parallels are lines for measuring location in the N-S direction.

5) When converted from DMS to DD units, 46°30'00'' will read:

C) 46.3°

A) 46.7°   D) None of these is

B) 46.5°   correct

6)   Which datum are GPS readings based on?

                                                               C) NAD27

A) CORS96   D) WGS84

B) NAD83

7)   What is Web Mercator?

8)   Describe how on-the-fly projection works.

9)   The Geographic Coordinate Data Base (GCDB) is a
database based on the:

                                                               D) None of these is

A) SPC (State Plane Coordinate) system   correct

B) UTM (Universal Transverse Mercator) Grid system

C) PLSS (Public Land Survey System)

⊙ true

11) ArcGIS offers the following three methods for defining a coordinate system: select, import, or create a coordinate system. Explain the difference between select and import a coordinate system.

12) When converted from NAD27 to NAD83, horizontal shifts of point positions in the conterminous United States can be as much as 100 meters (328 ft).

- ⊙ true
- ⊙ false

13) Illustrate with a specific example the importance of map projection/coordinate system in GIS operations.

14) Name the ellipsoids that are the basis for NAD27, NAD83, and GPS, respectively.

15) All layers to be used together in a GIS operation must align spatially.

- ⊙ true
- ⊙ false

16)   What is a map projection?

17)   Which of the following spheroids is ground-measured, rather than satellite-determined?

A) GRS80

B) WGS84
C) Clarke1866

18)   Which of the following coordinate systems is treated as a predefined coordinate system in ArcGIS?

A) STP (State Plane)
B) all of these are correct
C) Both UTM and STP

D) UTM (Universal Transverse Mercator)
E) IDTM (Idaho Transverse Mercator)

19)   The central meridian of a UTM zone has a scale factor of:

A) 1
B) None of these is correct

C) 0.9
D) 0.9996

20)   Which of the following statements is not true about a meridian with a scale factor of 1?

A) There is no projection distortion along the

meridian.
B) None of these is

correct
        C) The meridian must be a standard meridian.
        D) The meridian must be the line of $0°$ longitude.

21)   A conformal projection preserves the property of:

                                                                     C) none of these is

A) relative size   correct

B) local shapes   D) distances

22)   The center of a map projection is determined by the:

                                                                D) standard

A) standard parallel and central meridian   meridian and central

B) central parallel and central meridian   parallel

C) standard parallel and standard meridian

23)   The two common map projections used for the SPC (State Plane Coordinate) system are:

                                                               C) Lambert

A) transverse Mercator and Lambert conformal conic   conformal conic and

                                                             Albers conic equal-area

B) transverse Mercator and Albers conic equal-area

24)   How does an ellipsoid differ from a sphere in approximating the shape and size of the Earth?

25)   What does it mean by "reprojection"?

26) How can "datum shift" affect GIS work?

27) Explain the difference between NAD83 and NAD83(HARN)

28) What is a horizontal datum?

29) Briefly explain how a UTM zone is defined in terms of its central meridian, standard meridian, and scale factor.

A) Maps based on NAD83 can register spatially with maps based on NAD27.

B) All of these are correct

C) Both NAD83 is newer and NAD83 is based on.

D) NAD83 is based on a satellite-determined spheroid.

E) NAD83 is a newer datum than NAD27.

31) Which coordinate does a false easting apply to?

A) Y

B) X

32) An X-shift of -500,000 means you add 500,000 to the original X coordinate value.

⊙ true
⊙ false

33) Each UTM zone covers _____ degrees in longitude:

A) 7
B) 5

C) 4
D) 6

34) List the four types of map projections by the preserved property.

B) positive

A) negative

36) Which of the following statements is true?

C) A coordinate system is based on a map projection.

A) Map projection and coordinate system are unrelated.

B) A map projection is based on a coordinate system.

Answer Key

Test name: Introduction to Geographic
Information Systems Author: Chang 9th ch2

1) A

2) C

4) D

5) B

6) D

9) C

10) TRUE

12) TRUE

15) TRUE

17) C

18) C

19) D

20) D

21) B

22) B

23) A

30) C

31) B

32) FALSE

33) D

35) A

36) C