

**Worksheet Questions**

1.

What is a map projection?

no correct responses defined

*Gradable: manual*  
*Topic: Map Projection*

2.

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

no correct responses defined

*Gradable: manual*  
*Topic: Ellipsoid*

3.

What is it meant by “reprojection”?

no correct responses defined

*Gradable: manual*  
*Topic: Reprojection*

## Chapter 02 - Test Bank

4.

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

no correct responses defined

*Gradable: manual*  
*Topic: Central Line*  
*Topic: Standard Line*

5.

What is a datum?

no correct responses defined

*Gradable: manual*  
*Topic: Datum*

6.

How can “datum shift” affect GIS work?

no correct responses defined

*Gradable: manual*  
*Topic: Datum Shift*

7.

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

no correct responses defined

*Gradable: manual*  
*Topic: Map Projection*

## Chapter 02 - Test Bank

8.

Name the ellipsoids (or spheroids) that are the basis for NAD27, NAD83, and GPS, respectively.

no correct responses defined

*Gradable: manual*

*Topic: GRS80*

*Topic: NAD27*

*Topic: NAD83*

9.

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

no correct responses defined

*Gradable: manual*

*Topic: Universal Transverse Mercator (UTM) Grid System*

10.

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

no correct responses defined

*Gradable: manual*

## Chapter 02 - Test Bank

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.

no correct responses defined

*Gradable: manual*

12.

Describe how on-the-fly projection works.

no correct responses defined

*Gradable: manual*  
*Topic: On-the-Fly Projection*

13.

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

**True**

*Gradable: automatic*  
*Topic: Map Projection*

14.

A map projection transforms the geographic coordinates on an ellipsoid into locations on a plane.

**True**

*Gradable: automatic*  
*Topic: GRS80*  
*Topic: Map Projection*

15.

A conformal projection preserves the property of:

**local shapes**

*Gradable: automatic*  
*Topic: Map Projection*

16.

Which of the following statements is true about North American Datum (NAD)?

**Only NAD83 is a newer datum than NAD27 and NAD83 is based on a satellite-determined spheroid.**

*Gradable: automatic*  
*Topic: NAD27*  
*Topic: NAD83*

17.

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**

*Gradable: automatic*  
*Topic: Datum Shift*

18.

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

**The meridian must be the line of 00 longitude.**

*Gradable: automatic*  
*Topic: Scale Factor*

19.

The center of a map projection is determined by the:

**central parallel and central meridian**

*Gradable: automatic*  
*Topic: Central Line*

20.

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

**2**

*Gradable: automatic*

21.

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

**Clarke1866**

*Gradable: automatic*  
*Topic: NAD27*

22.

The longitude reading of a point in Oregon should be entered as a \_\_\_\_\_ value in a GIS package:

**negative**

*Gradable: automatic*

23.

Which of the following statements is true?

**A coordinate system is based on a map projection.**

*Gradable: automatic*  
*Topic: Map Projection*



24.

Each UTM zone covers \_\_\_\_\_ degrees in longitude:

**6**

*Gradable: automatic*

*Topic: Universal Transverse Mercator (UTM) Grid System*

25.

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

**transverse Mercator and Lambert conformal conic**

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*Gradable: automatic*

*Topic: State Plane Coordinate (SPC) System*

26.

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

**0.9996**

*Gradable: automatic*

*Topic: Universal Transverse Mercator (UTM) Grid System*

27.

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

**False**

*Gradable: automatic*

28.

When converted from DMS to DD units,  $46^{\circ}30'00''$  will read:

**$46.5^{\circ}$**

*Gradable: automatic*

29.

Which coordinate does a false easting apply to?

**X**

*Gradable: automatic*

30.

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

**PLSS (Public Land Survey System)**

*Gradable: automatic*

*Topic: Public Land Survey System (PLSS)*

31.

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

**only UTM (Universal Transverse Mercator) and STP (State Plane)**

*Gradable: automatic*

32.

Which of the following statements is true?

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

*Gradable: automatic*

33.

Which datum are GPS readings based on?

**WGS84**

*Gradable: automatic*