

Geography 12 Sample Mid-Term Examination

Before you begin, write your name and perm # on this page. Answer all questions. Darken or cross out the answer on the question list on the left hand side of this first page. Use a pencil and erase

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1. The textbook for your class is:

- a. Campbell, John. Map Use and Analysis.
- b. Clarke, Keith. Getting Started With Geographic Information Systems.
- c. Ptolemy, Claudius. The Geography.
- d. Lambert, Johann. Notes and Comments on the Composition of Terrestrial and Celestial Maps.
- e. Robinson, Arthur. Elements of Cartography.

2. Which geometric model has been used at some time to describe the earth?

- a. Sphere
- b. Oblate ellipsoid
- c. Flat disk.
- d. Geoid
- e. All of the above

3. The distance of 40,000,000 meters is approximately:

- a. The radius of the earth.
- b. The flattening of the ellipsoid.
- c. The length of the polar axis.
- d. The circumference of the earth.
- e. The length of the central meridian.

4. The difference in length between the polar earth diameter and the equatorial diameter is about:

- a. 87 meters
- b. 6,356,753.3 meters
- c. 6,378,137 meters
- d. 42,000 meters
- e. 40,000,000 meters

5. The debate over whether the earth was an oblate or prolate ellipsoid as settled by:

- a. Estimation
- b. A duel between two scientists
- c. Isaac Newton
- d. Measurement
- e. The International Meridian Conference of 1884.

6. The International Meridian Conference of 1884:

- a. Established the use of a single prime meridian.
- b. Established the Greenwich Meridian as Prime meridian.
- c. Established the universal day.
- d. Was held in Washington, D.C.
- e. All of the above.

7. The geoid is:

- a. A sphere
- b. Flat
- c. Varied above and below the ellipsoid.
- d. A mineral.
- e. An egg.

8. A datum is:

- a. The beginning of a day at the International Date Line.
- b. The vertical base for mapping heights from an ellipsoid.
- c. The study of the size and shape of the earth and its magnetic field.
- d. A single point at Meade's Ranch, Kansas
- e. Dinner and a movie with an Ancient Roman.

9. The geographer/geodesist who estimated the Earth's radius using a camel train, a well at Syene, and an obelisk in Alexandria was:

- a. George Washington
- b. Gerhardus Mercator
- c. Alexander Ross Clarke
- d. Eratosthenes
- e. Ptolemy

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10. The inventor of the first three map projections to be scientifically described was:

- a. George Washington b. Gerhardus Mercator c. Alexander Ross Clarke
d. Eratosthenes e. Ptolemy

11. Latitude can be established by observation of:

- a. The sun. b. The star Polaris. c. Satellites d. A map e. all of the these

12. Yankees Fan John Monaco (picture) is standing at:

- a. $0^{\circ}0'0''$ N $0^{\circ}0'0''$ W
b. $0^{\circ}0'0''$ N $0^{\circ}0'0''$ E
 c. $51^{\circ}28'0''$ N $0^{\circ}0'0''$ E
d. $28^{\circ}51'0''$ N $0^{\circ}0'0''$ E
e. Home plate at Yankee Stadium, The Bronx, New York.



13. A graphic device used to show the equation of time and the declination of the sun at different days of the years is called:

- a. A datum b. An ellipsoidal. c. An analemma d. A lemma e. A dilemma

14. The equinox:

- a. Is when eggs will stand upright when balanced.
b. Is when the earth is the farthest point from the sun
c. Is when the earth is the closest point to the sun
d. Occurs on June 21st.
 e. Occurs on or about March 21st and September 23rd.

15. The earth rotates:

- a. About a pole-to-pole axis. b. Once every 24 hours c. At the rate of 15 degrees of longitude per hour.
d. From west-to-east. e. All of these

16. Which is FALSE

- a. Longitude varies from 180 degrees West to 180 degrees East
b. Latitude varies from 90 degrees South to 90 degrees North
c. Lines of equal longitude are called meridians.
d. Lines of equal latitude are called parallels.
 e. geographic coordinates work for the sphere, but not the ellipsoid.

17. Which is the graticule?

- a. A line of equal longitude. b. A line of equal latitude. c. A line of equal height above a datum.
 d. The grid of parallels and meridians shown on a map. e. The flattening of the ellipsoid.

18. For one infinitely short time each day, the whole earth is experiencing the same universal day. This time is:

- a. At 12:00 noon at the International Date Line b. At 12:00 noon at the Prime Meridian.
c. At 12:00 noon, local solar time. d. At midnight, Zulu or Universal Time
e. At Midnight on January 1st, 2000.

20. The length of a degree of longitude is:

- a. 111.319 km at the equator. b. 78.847 km at 45 degrees North.
c. 0.0 km at 90 degrees North. d. 0.0 km at 90 degrees South.
 e. All of the above.

21. The length of a degree of latitude is:

- a. 110.574 km at the equator. b. 111.132 km at 45 degrees North. c. 111.694 km at 90° North.
d. 111.694 km at 90° South. **e.** All of the above.

22. What might be located at 34°26'N 119°43'W?

- a. New York. b. Greenwich, England. c. Greenwich, Connecticut. d. Hong Kong. **e.** Santa Barbara

23. The name of the USGS 7 1/2 minute quadrangle covering the UCSB Campus is:

- a. Santa Barbara, CA. **b.** Goleta, CA. c. Dos Pueblos Canyon, CA. d. San Marcos Pass, CA.
e. University of California Quadrangle, CA.

24. What three geometric or “developable” forms can a map be directly projected onto:

- a.** cylinder, cone, plane. b. sphere, ellipse, circle. c. hyperbola, complex curve, fractal.
d. a and b. e. none of the above.

25. If the tangent axis of a conic (or other) projection runs along the equator, the projection is called:

- a.** Equatorial b. Universal. c. Transverse d. Oblique e. Secant.

26. If the tangent axis of a conic (or other) projection runs orthogonal to the equator, the projection is called:

- a. Equatorial b. Universal. **c.** Transverse d. Oblique e. Secant.

27. If the tangent axis of a conic (or other) projection runs at an angle to the equator, the projection is called:

- a. Equatorial b. Universal. c. Transverse. **d.** Oblique e. Secant.

28. If the axis of a projection cuts through the Earth’s surface, the projection is called

- a. Equatorial b. Universal. c. Transverse d. Oblique. **e.** Secant.

29. A secant conic projection aligned with the polar axis has:

- a. No standard parallels. b. One standard parallel. **c.** Two standard parallels.
d. One Standard and one non-standard parallel. e. No parallels, and few equals.

30. A projection that has multiple breaks in the transformed surface, such as the Goode’s Homolosine is called:

- a. A secant conic. b. The Miller Cylindrical. **c.** Interrupted. d. the Bonne projection. e. Useless.

31. The Mercator projection preserves local shape and point-to-point direction. This property is called:

- a. Equivalence. **b.** Conformality. c. Compromise. d. Equidistance. e. Shaping-up.

32. The space-oblique projection, used for satellite imagery, was invented in the early 1970s by:

- a. Waldo Tobler. b. Gerhardus Mercator. c. Arno Peters. **d.** John Snyder. e. John Glen

33. A system that allows locations on earth to be described by at least two numbers is called:

- a. A map projection. b. An ellipsoid. c. A land partitioning system. **d.** A coordinate system.
e. Zip plus four.

34. Which is NOT an example of a standardized coordinate system:

- a. UTM b. UPS c. GEOREF d. SPCS. **e.** Letters and Numbers on Thomas Bros. Maps.

Which coordinate system is in use in the following cases? In answers to 35-39, use:

a. UTM b. GEOREF c. Military Grid d. SPCS e. Geographic.

35. MK LK 385250 **(b)**

36. 4,123,514 mN; 123, 651mE; Zone 22, S **(a)**

37. 2,176,999 ft E 210,313 m N; CA Zone 5. **(d)**

38. 18TWC873130 **(c)**

39. $67^{\circ}14'12.4516''N$ $23^{\circ}57'59.817''E$ **(e)**

40. Which of the following coordinates is impossible?

- a. 6,153,514 mN; 503, 651mE; Zone 20, S b. 4,123,514 mN; 123, 651mE; Zone 60, S
c. $67^{\circ}14'12.4516''S$ $23^{\circ}57'59.817''E$ **(d)** $90^{\circ}14'12.4516''N$ $23^{\circ}57'59.817''W$
e. $0^{\circ}0'0''N$ $0^{\circ}0'0.01''W$

41. Which statement about UTM is FALSE?

- a. The earth is divided into 60 UTM zones, each 6 degrees wide.
b. Zones are numbered west to east, starting at 180 degrees west.
c. Each zone is drawn on a Transverse Mercator projection, centered on the central meridian.
d. Eastings are in meters with the central meridian set at 500,000. Northings are zero at the equator and the South pole.
(e) The UTM system covers the whole planet in one consistent metric system of coordinates.

42. Which map projection statement is TRUE?:

- (a)** No map projection can be both equivalent and conformal.
b. All map projections are conformal.
c. UTM has a line of minimal distortion along a parallel.
d. All map projections are equivalent.
e. UTM has no distortion within a zone.

43. An example of a datum NOT used in mapping is:

- a. NAD27 b. GRS80 c. WGS84 d. Mean Sea Level **(e)** Mean Wave height

44. A contour line is:

- a. A line of constant temperature.
(b) A line connecting points with equal elevation.
c. A topographic line shown on USGS maps in green.
d. Thicker when slopes are steeper.
e. Thinner when slopes are steeper.

45. When contour lines are close together on a map:

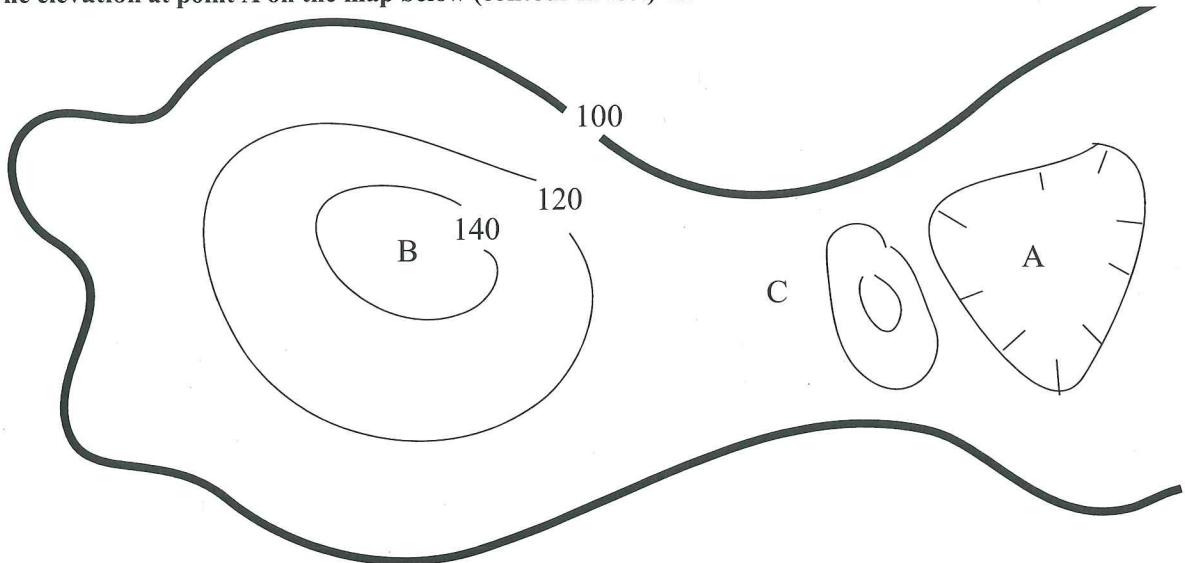
- (a)** Slopes are steep. b. Slopes are gentle. c. Slopes are linear.
d. Slopes are concave. e. There is a vertical cliff.

46. On a map at the scale of 1:5,000,000 a ground distance of 100 meters would be shown on the map with length: a. 0.02 m **(b)** 0.02 mm c. 5 mm d. 5 m e. 5 inches

47. On a map with the scale of 1:100,000, a distance of one millimeter on the map would correspond to what distance on the ground?

- a. 1 meter b. 10 meter c. 100 meter d. 1000 meter e. 10,000 meter.

48. The elevation at point A on the map below (contour in feet) is:



- a. Less than 100 feet, greater than 80 feet. b. 100 feet. c. 145 feet
d. Sea level e. Less than 80 feet, greater than 60 feet.

49. The elevation at point B on the map is:

- a. Less than 100 feet, greater than 80 feet.
b. Less than 120 feet, greater than 100 feet.
c. Less than 140 feet, greater than 120 feet.
 d. Less than 160 feet, greater than 140 feet.
e. 140 feet.

50. The feature at Point C is called:

- a. an enclosed loop b. a Saddle Point c. an enclosed depression
d. a spur e. a pit

Congratulations, you have finished. If you have time, check over your answers. When you are done, make sure your name and perm # are on the first sheet, and turn the whole exam in.