Chapter: Chapter 01: Discovering the Earth's Dimensions Chapter Quiz Test Bank

Multiple Choice

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At the equator, the rotation of the earth is:
 A) north to south
 B) south to north
 C) east to west
 D) west to east

Ans: D Section Ref: Shape of the Earth Difficulty: Hard Learning Objective: Describe how and why the Earth's actual shape deviates from a perfect sphere.

2. Which one of the following is NOT one of the five essential themes of Geography? A) location

- B) place
- C) region
- D) time

Ans: D Section Ref: The World of Physical Geography Difficulty: Easy Learning Objective: Distinguish between Physical and Human Geography

3. The equatorial diameter of the earth is _____ than the polar diameter. A) less than 1% smaller

- B) more than 5% smaller
- C) less than 1% larger
- D) more than 5% larger

Ans: C Section Ref: Shape of the Earth Difficulty: Medium Learning Objective: Describe how and why the Earth's actual shape deviates from a perfect sphere.

- 4. The shape of the earth most resembles a(n):
- A) Perfect Sphere
- B) Circle
- C) Egg
- D) Oblate spheroid

Ans: A
Section Ref: Shape of the Earth
Difficulty: Easy
Learning Objective:
Describe how and why the Earth's actual shape deviates from a perfect sphere.
5. Which of the following provide evidence of the earth's shape?
A) illumination patterns of clouds during sunset
B) disappearances of ships below the ocean horizon
C) photos from space
D) all of the above

Ans: D Section Ref: Shape of the Earth Difficulty: Easy Learning Objective: Explain how we know the Earth is approximately spherical.

6. The imaginary straight line that passes through the center of the earth and the poles is known as the:

- A) equator
- B) prime meridian
- C) plane of the ecliptic
- D) axis

Ans: DSection Ref: Global LocationDifficulty: MediumLearning Objective: Explain how we know the Earth is approximately spherical.7. Which of the following includes the structural rock formation of the earth's surface?

- A) atmosphere
- B) lithosphere
- C) biosphere
- D) hydrosphere

Ans: B

Section Ref: The World of Physical Geography Difficulty: EasyLearning Objective: Describe the Earth's four systems.

8. A logical explanation for a process or phenomenon that allows prediction or testing by experiment is known as a(n):

- A) explanation
- B) scientific method
- C) geographic explanation
- D) hypothesis

Ans: D

Section Ref: The World of Physical Geography Difficulty: EasyLearning Objective: Outline the steps in the scientific method.

9. A hypothesis that has been tested and is strongly supported by experimentation,

observation, and scientific evidence is known as a:

- A) theory
- B) observation
- C) geographic inquiry
- D) hypothesis

Ans: A Section Ref: The World of Physical Geography Difficulty: Easy Learning Objective; Outline the steps in the scientific method.

- 10. The poles are defined as the points on the earth's surface:
- A) farthest from the plane of the ecliptic
- B) closest to the plane of the ecliptic
- C) where the magnetic field is generated
- D) where the axis of rotation emerges

Ans: D Section Ref: Global Location Difficulty: Easy Learning Objective: Explain how we know the Earth is approximately spherical.

11. Lines connecting points of the same latitude are called:

- A) meridians
- B) perpendiculars
- C) parallels
- D) horizontals

Ans: C Section Ref: Global Location Difficulty: Easy Learning Objective: Describe the geographic grid system.

12. Lines connecting points of the same longitude are also called:A) meridiansB) perpendiculars

C) parallelsD) horizontals

Ans: A Section Ref: Global Location Difficulty: Easy Learning Objective: Describe the geographic grid system.

13. The parallel that lies midway between the poles is the:A) prime meridianB) Arctic circleC) equatorD) Antarctic circle

Ans: C Section Ref: Global Location Difficulty: Easy Learning Objective: Describe the geographic grid system.

14. The geographic grid is composed ofA) verticals and horizontalsB) parallels and meridiansC) projectionsD) none of the above

Ans: B Section Ref: Global Location Difficulty: Easy Learning Objective: Describe the geographic grid system.

15. There are _____ degrees of latitude (north and south) and _____ degrees of longitude (east and west).
A) 180; 360
B) 90; 180
C) 360; 180
D) 180; 90

Ans: B Section Ref: Global Location Difficulty: Medium Learning Objective: Describe the geographic grid system.

16. One degree of latitude or longitude can be subdivided into:A) 60 minutesB) 60 secondsC) 24 hoursD) 12 months

Ans: A Section Ref: Global Location Difficulty: Medium Learning Objective: Describe the geographic grid system.

17. The arc of a meridian between the equator and a given point on the globe is:A) a parallelB) a meridianC) latitudeD) longitude

Ans: C Section Ref: Global Location Difficulty: Hard Learning Objective: Explain how we determine position on the globe.

18. The arc of a parallel between the prime meridian and a given point on the globe is:A) a parallelB) a meridianC) latitudeD) longitude

Ans: D Section Ref: Global Location Difficulty: Hard Learning Objective: Explain how we determine position on the globe.

19. Latitude values designate positions:A) east and west of the equatorB) north and south of the equatorC) east and west of the prime meridianD) north and south of the prime meridian

Ans: B Section Ref: Global Location Difficulty: Easy Learning Objective: Explain how we determine position on the globe.

20. Longitude values designate positions:A) east and west of the equatorB) north and south of the equatorC) east and west of the prime meridianD) north and south of the prime meridian

Ans: C Section Ref: Global Location Difficulty: Easy Learning Objective: Explain how we determine position on the globe.

21. A value of zero degrees longitude occurs at the:A) north poleB) south poleC) equatorD) prime meridian

Ans: D Section Ref: Global Location Difficulty: Medium Learning Objective: Explain how we determine position on the globe.

22. A value of zero degrees latitude occurs at the:

A) north poleB) south poleC) equatorD) prime meridian

Ans: C Section Ref: Global Location Difficulty: Medium Learning Objective: Explain how we determine position on the globe.

23. The prime meridian passes throughA) Berlin, GermanyB) Washington, D.C.C) Rome, ItalyD) Greenwich, England

Ans: D Section Ref: Global Location Difficulty: Medium Learning Objective: Explain how we determine position on the globe.

24. If you walked directly north or south, you would:A) be following a meridianB) be following a parallelC) be following an equinoxD) none of the above

Ans: A Section Ref: Global Location Difficulty: Medium Learning Objective: Describe the geographic grid system.

25. If you walked directly east or west, you would:A) be following a meridianB) be following a parallelC) be following an equinoxD) none of the above

Ans: B Section Ref: Global Location Difficulty: Medium Learning Objective: Describe the geographic grid system.

26. Meridians run _____ around the globeand _____ the poles.
A) east-west; do not connect
B) north-south; do not connect
C) east-west; connect
D) north-south; connect

Ans: D Section Ref: Global Location Difficulty: Hard Learning Objective: Describe the geographic grid system.

27. Parallels run _____ around the globe and _____ the poles.
A) east-west; do not connect
B) north-south; do not connect
C) east-west; connect
D) north-south; connect

Ans: A Section Ref: Global Location Difficulty: Hard Learning Objective: Describe the geographic grid system.

28. The network of parallels and meridians used to describe locations on the earth's surface is called the:A) global projectionB) geoidC) geographic gridD) oblate spheroid

Ans: C Section Ref: Global Location Difficulty: Medium Learning Objective: Describe the geographic grid system.

29. A map projection is:A) a system of meridians and parallels that represent the curved Earth on a flat surfaceB) a method for enlarging a mapC) a method for reducing a mapD) a scale to allow representation of large areas on a small surface

Ans: A Section Ref: Mapping the Earth Difficulty: Easy Learning Objective: Discuss how map projections distort information

30. A map projection that can portray the entire surface of the earth without any distortion is the:A) Mercator projectionB) Goode projectionC) Winkel Tripel ProjectionD) none of the above

Ans: D Section Ref: Mapping the Earth Difficulty: Hard Learning Objective: Discuss how map projections distort information

31. The ratio that tells us how to convert distances on a map to distances on the real world is called the:A) conic projectionB) orthographic projectionC) scale fraction.D) orthographic fraction

Ans: C Section Ref: Mapping the Earth Difficulty: Easy Learning Objective: Discuss how map projections distort information

32. A map projection composed of horizontal parallels and vertical meridians is the:

A) Mercator projectionB) Goode projectionC) Winkel Tripel projectionD) none of the above

Ans: A Section Ref: Mapping the Earth Difficulty: Medium Learning Objective: Discuss how map projections distort information

33. A map projection where a straight line will give a constant compass direction (though this direction doesn't represent the shortest distance between two points), is the:A) Mercator projectionB) Goode projectionC) Winkel Tripel projectionD) none of the above

Ans: A Section Ref: Mapping the Earth Difficulty: Easy Learning Objective: Discuss how map projections distort information

34. An interrupted map projection that uses horizontal parallels and a combination of sine curves and ellipses to represent meridians is the:

A) Mercator projection

B) Goode projection

C) Winkel Tripel projection

D) none of the above

Ans: B Section Ref: Mapping the Earth Difficulty: Hard Learning Objective: Discuss how map projections distort information

35. A map projection that accurately portrays the size of different areas on the earth's surface, but distorts the shape, is the: A) Mercator projection

B) Goode projection

C) Winkel Tripel projection

D) none of the above

Ans: B Section Ref: Mapping the Earth Difficulty: Easy Learning Objective: Discuss how map projections distort information

36. Of the following, the map projection that would be most useful for determining the compass direction between two locations is the:

A) Mercator projection

B) Goode projection

C) Winkel Tripel projection

D) none of the above

Ans: A Section Ref: Mapping the Earth Difficulty: Easy Learning Objective: Discuss how map projections distort information

37. Of the following, the map projection that has parallels that are nearly straight, curving slightly toward the edges of the map, and meridians that are increasingly curved farther from the central meridian is known as the:

- A) Mercator projection
- B) Goode projection
- C) Winkel Tripel projection
- D) none of the above

Ans: C Section Ref: Mapping the Earth Difficulty: Easy Learning Objective: Discuss how map projections distort information

38. Of the following, the map projection that would be most useful for comparing the sizes of regions is the:

A) Mercator projection

- B) Goode projection
- C) Winkel Tripel projection
- D) none of the above

Ans: B Section Ref: Mapping the Earth Difficulty: Medium Learning Objective: Discuss different map projections

39. Which of the following shapes cannot be made to lie flat?A) planeB) coneC) cylinderD) sphere

Ans: D Section Ref: Mapping the Earth Difficulty: Medium Learning Objective: identify the three different types of map projections

40. At any given location, solar noon occurs:A) at 12 amB) at 12 pmC) when the sun is at its highest point in the skyD) when the sun is directly above the equator

Ans: C Section Ref: Global Time Difficulty: Medium Learning Objective: Describe how the sun's position regulates global time.

41. Solar noon occurs simultaneously:A) at places with the same latitudeB) at places with the same longitudeC) everywhere on the globeD) nowhere on the globe

Ans: B Section Ref: Global Time Difficulty: Medium Learning Objective: Describe how the sun's position regulates global time.

42. The world time zones are generally separated in time by:

A) one hourB) one minuteC) one dayD) one week

Ans: A Section Ref: Global Time Difficulty: Easy Learning Objective: Describe how the sun's position regulates global time.

43. World Standard Time was developed because of:A) difficulties in travel and transportationB) difficulties in scheduling work shiftsC) the need for daylight savings timeD) different latitudes were using different systems

Ans: A Section Ref: Global Time Difficulty: Medium Learning Objective: Discuss the need for world time zones

44. The world time zones are centered on meridians that are spaced _____ degrees apart.A) 3B) 5C) 12

C) 12 D) 15

Ans: D Section Ref: Global Time Difficulty: Easy Learning Objective: Describe how the sun's position regulates global time.

45. The country that covers the largest number of time zones is:

- A) Russia
- B) China
- C) United States
- D) Canada

Ans: A Section Ref: Global Time Difficulty: Medium Learning Objective: Discuss the need for world time zones

46. When the international date line is crossed time:A) changes by one dayB) changes by one hourC) changes by 12 hoursD) does not change

Ans: A Section Ref: Global Time Difficulty: Medium Learning Objective: Describe how sun regulates global time

47. The international date line is located at:
A) the prime meridian
B) the 180^o meridian
C) the equator
D) Greenwich, England

Ans: B Section Ref: Global Time Difficulty: Medium Learning Objective: Describe how sun regulates global time

48. If you take a plane flight from San Francisco, CA to Seoul, South Korea, as you cross the international dateline the time will:A) advance by one dayB) move back by one dayC) advance by 12 hoursD) move back by 12 hours

Ans: A Section Ref: Global Time Difficulty: Hard Learning Objective: Describe how sun regulates global time 49. The time difference between the prime meridian and the international dateline is:

A) 24 hours

B) 12 hours

C) 1 hour

D) none of the above

Ans: B Section Ref: Global Time Difficulty: Easy Learning Objective: Describe how sun regulates global time

50. If you traveled from the location 45°N, 130°W to the location 45°S, 130°W you would experience a time change of:
A) 12 hours
B) 24 hours
C) 0 hours
D) none of the above

Ans: C Section Ref: Global Time Difficulty: Easy Learning Objective: Describe how sun regulates global time

51. Daylight savings time was instituted to give us an extra hour of daylight:A) in the morning when people wake upB) in the evening when people are activeC) at noon when people take their lunch breakD) none of the above

Ans: B Section Ref: Global Time Difficulty: Easy Learning Objective: Describe how sun regulates global time

52. The lines on the globe shown in part A of this figure are called:



Ans: A Section Ref: Global Location Difficulty: Easy Learning Objective: Explain how we determine position on the globe.

53. The lines on the globe shown in part B of this figure are called:



Section Ref: Global Location Difficulty: Easy Learning Objective: Explain how we determine position on the globe. 54. The lines on the globe shown in part A of this figure are used to determine position north or south of the:



Ans: C Section Ref: Global Location Difficulty: Medium Learning Objective: Explain how we determine position on the globe.

55. The lines on the globe shown in part B of this figure are used to determine position east or west of the:



C) equator D) south pole

Ans: A Section Ref: Global Location Difficulty: Medium Learning Objective: Explain how we determine position on the globe.

56. Part A of this figure demonstrates how the coordinate known as ______ is determined.



Learning Objective: Explain how we determine position on the globe

57. Part B of this figure demonstrates how the coordinate known as ______ is determined.



Ans: D Section Ref: Global Location Difficulty: Easy Learning Objective: Explain how we determine position on the globe

58. This illustration shows an example of a map using the _____ projection.



Ans: D Section Ref: Mapping the Earth Difficulty: Medium Learning Objective: Discuss how map projections distort information.

59. This illustration shows an example of a map using the _____ projection.



D) Mercator

Ans: B Section Ref: Mapping the Earth Difficulty: Hard Learning Objective: Discuss how map projections distort information.

60. If it was currently 4:00 pm in Miami, Florida, what time would it be in Corvallis on the coast of Oregon?



Ans: D Section Ref: Global Time Difficulty: Medium Learning Objective: Describe how the sun's position regulates global time

61. If it was currently 4:00 pm in Los Angeles, California what time would it be in

Miami, Florida?



Section Ref: Global Time Difficulty: Medium Learning Objective: Describe how the sun's position regulates global time.

62. If it was currently 11:00 am in Oregon, what time would it be in Maine?



A) 2:00 pm B) 8:00 am C) 11:00 am D) 11:00 pm

Ans: A Section Ref: Global Time Difficulty: Medium Learning Objective: Describe how the sun's position regulates global time.

True/False

63. The disappearance of the lower portion of a ship as it sails over the horizon is evidence that the world is round.

Ans: True Section Ref: Shape of the Earth Difficulty: Easy Learning Objective: Explain how we know the Earth is approximately spherical.

64. The illumination of the clouds by the sun after it has sunk below the horizon is

evidence that the world is round.

Ans: True Section Ref: Shape of the Earth Difficulty: Easy Learning Objective: Explain how we know the Earth is approximately spherical.

65. The Earth is perfectly spherical.

Ans: False Section Ref: Shape of the Earth Difficulty: Easy Learning Objective: Explain how we know the Earth is approximately spherical.

66. The Earth's polar diameter is larger than its equatorial diameter.

Ans: False Section Ref: Shape of the Earth Difficulty: Hard Learning Objective: Explain how we know the Earth is approximately spherical.

67. The Earth's shape is closer to an oblate ellipsoid than a sphere.

Ans: True Section Ref: Shape of the Earth Difficulty: Medium Learning Objective: Explain how we know the Earth is approximately spherical.

68. The Earth's axis is an imaginary line running straight through its center and poles.

Ans: True Section Ref: Global Location Difficulty: Easy Learning Objective: Explain how we know the Earth is approximately spherical.

69. The North and South Poles are defined as the points on the earth's surface where the axis of rotation emerges.

Ans: True Section Ref: Global Location Difficulty: Easy Learning Objective: Explain how we know the Earth is approximately spherical.

70. The earth's rotation is responsible for the division of time into days and nights.

Ans: True Section Ref: Global Location Difficulty: Easy Learning Objective: Describe how the sun's position regulates global time

71. Meridians are lines that run north-south around the earth and connect the poles.

Ans: True Section Ref: Global Location Difficulty: Easy Learning Objective: Describe the geographic grid system

72. Parallels are circles that run east-west around the earth in planes parallel to the equator.

Ans: True Section Ref: Global Location Difficulty: Easy Learning Objective: Describe the geographic grid system 73. Longitude is the arc of a meridian between the equator and a given point on the globe.

Ans: False Section Ref: Global Location Difficulty: Hard Learning Objective: Describe the geographic grid system

74. Latitude is the arc of a parallel between the prime meridian and a given point on the globe.

Ans: False Section Ref: Global Location Difficulty: Hard Learning Objective: Describe the geographic grid system

75. Latitude is used to identify positions north and south of the equator.

Ans: True Section Ref: Global Location Difficulty: Easy Learning Objective: Explain how we determine position on the globe.

76. Longitude is used to identify positions north and south of the prime meridian

Ans: False Section Ref: Global Location Difficulty: Easy Learning Objective: Explain how we determine position on the globe.

77. A map projection is an enlarged picture of the spherical world projected on a screen.

Ans: False Section Ref: Mapping the Earth Difficulty: Easy Learning Objective: Identify the three primary types of map projections 78. A map projection is a system of parallels and meridians representing the earth's curved surface drawn on a three-dimensional, spherical surface.

Ans: False Section Ref: Mapping the Earth Difficulty: Hard Learning Objective: Identify the three primary types of map projections

79. A map projection is a tool used to represent a three-dimensional sphere on a flat, twodimensional surface.

Ans: True Section Ref: Mapping the Earth Difficulty: Easy Learning Objective: Identify the three primary types of map projections

80. The Goode projection is composed of horizontal parallels and vertical meridians.

Ans: False Section Ref: Mapping the Earth Difficulty: Medium Learning Objective: Identify the three primary types of map projections

81. The Mercator projection is an equal-area map useful for displaying information such as soil type and climate.

Ans: False Section Ref: Mapping the Earth Difficulty: Medium Learning Objective: Discuss different types of map projections

82. The Goode projection is an equal-area map useful for displaying information such as soil type and climate.

Ans: True Section Ref: Mapping the Earth Difficulty: Easy

Learning Objective: Discuss different types of map projections

83. The Mercator projection is composed of horizontal parallels and vertical meridians.

Ans: True Section Ref: Mapping the Earth Difficulty: Easy Learning Objective: Discuss different types of map projections

84. Solar noon can occur simultaneously at locations with the same latitude.

Ans: False Section Ref: Global Time Difficulty: Hard Learning Objective: Describe how the sun's position regulates global time

85. Without standardized time zones, every meridian could be at a different time.

Ans: True Section Ref: Global Time Difficulty: Medium Learning Objective: Discuss the need for world time zones

86. Since the earth rotates 360 degrees over 24 hours, standard meridians are usually 15 degrees apart.

Ans: True Section Ref: Global Time Difficulty: Easy Learning Objective: Describe how the sun's position regulates global time

87. When one crosses the international dateline traveling from west to east, the date becomes one day later.

Ans: False Section Ref: Global Time Difficulty: Hard Learning Objective: Describe how the sun's position regulates global time

88. Since we often wake up after sunrise and continue activities after sunset, we use daylight savings time to transfer an hour of sunlight from morning to evening.

Ans: True Section Ref: Global Time Difficulty: Easy Learning Objective: Explain why we need the international dateline and daylight saving time.

89. Daylight savings time is used in the winter to lengthen the short days.

Ans: False Section Ref: Global Time Difficulty: Hard Learning Objective: Explain why we need the international dateline and daylight saving time.

Essay

90. Describe the actual shape of the earth.

Ans: Earth is not a perfect sphere. Mention either: 1) it bulges outward at the equator and is "squashed" at the poles, or 2) the equatorial diameter is slightly larger (<0.3%) than the polar diameter. Its shape is closer to an oblate ellipsoid. The 'geoid' is a reference surface that represents the earth's shape even more closely. Section Ref: The Shape of the Earth Difficulty: Medium Learning Objective: Describe the earth's shape

91. Explain how we determine position on the earth's surface.

Ans: The earth is divided into a coordinate grid composed of parallels and meridians. Latitude is the arc of a meridian between the equator and a given point of interest. Longitude is arc of a parallel between the prime meridian and the given point. Using this grid system, any position on the earth's surface can be identified by a unique combination of latitude and longitude. Section Ref: Global Location Difficulty: Medium Learning Objective: Explain how we determine position on the globe

92. Discuss the differences between the Mercator, Winkel Tripel, and Goode projections.

Ans: Mercator: Useful for navigation—straight line on map is line of constant compass direction. This is not necessarily the shortest path. Useful to display straight-line features. Goode: Correctly displays area, good for comparing size of regions, displaying climate, soils, vegetation. Major weakness is that it distorts shape, particularly along edges. Wikel Tripel: minimizes the sum of distortions to area, distance, and direction Section Ref: Mapping the Earth Difficulty: Easy Learning Objective: Discuss different types of map projections

93. Discuss at least 5 different applications in which a GIS can be used in today's society: Ans: Varies; can include land use management, site location, city and county governments, etc.

Section Ref: Frontiers in Mapping Technologies

Difficulty: Medium

Learning Objective: Describe the basic features of GIS

94. Discuss the seven steps of the scientific method.

Ans. Step 1. Generate critical inquiry from investigations and field observations. Step 2. Formalize questions into a testable hypothesis to explain observations. Step 3. Select method(s) of analysis and control for variables and conditions for experiment. Step 4. Collect data for controlled experiment. Step 5. Conduct experiments to test hypothesis. Step 6. Reject or accept the hypothesis. Step 7. Document results, provide new science facts, and apply them to support theory or greater understanding.

Section Ref: The World of Physical Geography

Difficulty: Medium

Learning Objective: Outline the steps in the scientific method.

Short Answer

_____·

95. The earth's squashed shape is closer to a(n) _____ than a sphere.

Ans: oblate spheroid Section Ref: Shape of the Earth Difficulty: Hard Learning Objective: Describe the earth's shape

96. The two points on the earth's surface where the axis of rotation emerges are the

Ans: poles Section Ref: Global Location Difficulty: Easy Learning Objective: Describe the geographic grid system

97. Lines of latitude are called _____.

Ans: parallels Section Ref: Global Location Difficulty: Easy Learning Objective: Describe the geographic grid system

98. Lines of longitude are called _____.

Ans: meridians Section Ref: Global Location Difficulty: Easy Learning Objective: Describe the geographic grid system

99. Latitude values identify positions north or south of the _____.

Ans: equator

Section Ref: Global Location Difficulty: Medium Learning Objective: Describe the geographic grid system

100. Longitude values identify positions east and west of the _____.

Ans: prime meridian Section Ref: Global Location Difficulty: Medium Learning Objective: Describe the geographic grid system

101. A straight line drawn on a _____ projection map gives the compass direction to a destination.

Ans: Mercator Section Ref: Mapping the Earth Difficulty: Easy Learning Objective: Discuss different types of map projections

102. A map projection which accurately represents the area of regions is the _____ projection.

Ans: Goode Section Ref: Mapping the Earth Difficulty: Medium Learning Objective: Discuss different types of map projections

103. Daylight Savings Time gives us an extra hour of daylight during the _____ months.

Ans: summer Section Ref: Global Time Difficulty: Hard

Learning Objective: Explain why we need the international dateline and daylight saving time.

106. ______ are computer programs that access and query geographic data draped over a computer-generated globe.

Ans: Geobrowsers Section Ref: Frontiers in Mapping Technology Difficulty: Easy Learning Objective: Explain how web-based geobrowsers are expanding geographers' tools.