

## Elemental Geosystems, 5e (Christopherson)

### Chapter 1 Foundations of Geography

1) Geography is described as

- A) an Earth science.
- B) a human science.
- C) a physical science.
- D) a spatial science.

Answer: D

2) The word spatial refers to

- A) the nature and character of physical space.
- B) items that relate specifically to society.
- C) things that are unique and special.
- D) eras of time.

Answer: A

3) A principal methodology governing geographic inquiry

- A) is behavioral analysis.
- B) involves spatial analysis.
- C) uses chronological organization.
- D) is field work.

Answer: B

4) Which of the following best describes the current emphasis in the field of physical geography?

- A) understanding soil development
- B) modeling economic interrelationships among countries
- C) studying weather
- D) understanding how Earth's systems interact to produce natural phenomena

Answer: D

5) Which of the following most accurately characterizes the goal of geography?

- A) the production of maps
- B) memorization of the names of places on world and regional maps
- C) memorization of the imports and exports of a country
- D) understanding why a place has the characteristics that it does

Answer: D

6) Which of the following terms characterizes the discipline of geography?

- A) eclectic
- B) holistic
- C) unscientific
- D) A, B, and C
- E) A and B only

Answer: E

7) Which of the following compose the fundamental duality in the field of geography?

- A) physical versus human/cultural
- B) physical versus economic
- C) economic versus political
- D) political versus environmental

Answer: A

8) Relative to the fundamental themes of geography proposed by the Association of American Geographers, communication and diffusion refer to

- A) location.
- B) place.
- C) human-Earth relationships.
- D) movement.
- E) regions.

Answer: D

9) Relative to the fundamental themes of geography proposed by the Association of American Geographers, latitude and longitude refer to

- A) location.
- B) place.
- C) human-Earth relationships.
- D) movement.
- E) regions.

Answer: A

10) Relative to the fundamental themes of geography proposed by the Association of American Geographers, resource exploitation and hazard perception refer to

- A) location.
- B) place.
- C) human-Earth relationships.
- D) movement.
- E) regions.

Answer: C

11) Relative to the fundamental themes of geography, the Taj Mahal in India and Ayers Rock in Australia are best described within which of the five themes?

- A) location
- B) place
- C) human-Earth relationships
- D) movement
- E) regions

Answer: B

12) Relative to the fundamental themes of geography, your home address is best described within which of the five themes?

- A) location
- B) place
- C) human-Earth relationships
- D) movement
- E) regions

Answer: A

13) The wind-blown soot, hydrocarbons, and sulfur compounds from the oil-well fires that burned in Kuwait during 1991 fall within which of the five themes?

- A) location
- B) place
- C) human-Earth relationships
- D) movement
- E) regions

Answer: C

14) The inductive method of reasoning used by Earth scientists to discern patterns in nature involves reasoning from

- A) the complex to the simple.
- B) the simple to the complex.
- C) the specific to the general.
- D) the general to the specific.

Answer: C

15) Which of the following is the most strongly supported by experimental and observational evidence?

- A) speculation
- B) hypothesis
- C) educated guess
- D) theory

Answer: D

16) The scientific method is described by which of the following?

- A) the application of common sense
- B) a relation to procedures developed by Sir Isaac Newton
- C) the development of hypotheses for testing and prediction
- D) All of these are correct.
- E) None of these is correct.

Answer: D

17) Which of the following is true of scientific theories?

- A) They are based on several hypotheses.
- B) They are broad in scope because they unify several known facts about the world.
- C) They are based on natural laws (such as those pertaining to gravity, relativity, atomic theory, etc.).
- D) all of the above
- E) A and B only

Answer: D

18) Which of the following is an example of a system?

- A) a leaf
- B) a river drainage basin
- C) a midlatitude cyclonic storm
- D) All of these are examples of systems.
- E) None of these are examples of systems.

Answer: D

19) A non-rechargeable battery can best be described as a/an \_\_\_\_\_ energy system and a/an \_\_\_\_\_ material system.

- A) closed; closed
- B) closed; open
- C) open; open
- D) open; closed

Answer: D

20) Which of the following is incorrect?

- A) Earth represents a vast integrated system.
- B) Earth represents an open system in terms of energy.
- C) Earth represents a closed system in terms of matter.
- D) New resources and matter are being added to Earth's systems all the time.

Answer: D

21) What type of feedback maintains stability in a system, i.e., what type of feedback keeps a system functioning properly?

- A) positive
- B) negative
- C) neutral

Answer: B

22) If a system responds to a change in input by moving further away from its equilibrium condition, what type of feedback has occurred?

- A) positive
- B) negative
- C) neutral
- D) Not enough information is given to indicate what type of feedback has occurred.

Answer: A

23) Which of the following is correctly matched?

- A) equilibrium    balance of inputs and outputs
- B) steady state equilibrium    small fluctuations about an average condition
- C) dynamic equilibrium    small fluctuations about an average condition that changes gradually over time
- D) All of these are correctly matched.

Answer: D

24) Which of the following best describes the condition of steady-state equilibrium?

- A) System inputs always exactly balance outputs so the system never changes.
- B) System inputs and outputs fluctuate around a stable average so the system does not move far from its average condition.
- C) System inputs produce large, random fluctuations in output, forcing the system into a new state of equilibrium.
- D) Systems slowly adjust to long-term changes in input and output.

Answer: B

- 25) If increased levels of carbon dioxide lead to further increases in temperature by promoting the release of even more carbon dioxide from the oceans, this means that \_\_\_\_\_ feedback has occurred and that the planet is \_\_\_\_\_.
- A) positive; in equilibrium
  - B) positive; out of equilibrium
  - C) negative; in equilibrium
  - D) negative; out of equilibrium

Answer: B

- 26) The carbon dioxide that is being added to the atmosphere by the burning of fossil fuels is an example of an \_\_\_\_\_ variable to the atmosphere and an \_\_\_\_\_ variable from the lithosphere.
- A) input; input
  - B) input; output
  - C) output; output
  - D) output; input

Answer: B

- 27) The increase in meltponds in Arctic regions is an example of
- A) positive feedback, because the melt ponds absorb more solar energy than the ice did.
  - B) positive feedback, as the melt ice freezes it increases the area of ice.
  - C) negative feedback, because the ponds reflect more sunlight than ice and therefore absorb less energy.
  - D) negative feedback, as the ice melts the water freezes, increasing the amount of ice.

Answer: A

- 28) Which of the following is true of models?
- A) They are abstract representations of the world.
  - B) They are idealized representations of the world.
  - C) They are simplified representations of the world.
  - D) They are abstract and idealized, but not simplified representations of the world.
  - E) All of the above are true.

Answer: E

- 29) The three inorganic Earth realms are the
- A) hydrosphere, lithosphere, and atmosphere.
  - B) thermosphere, lithosphere, heterosphere.
  - C) atmosphere, geoid, homosphere.
  - D) stratosphere, magnetosphere, and troposphere.

Answer: A

- 30) Living systems are considered
- A) biotic.
  - B) inorganic.
  - C) part of the lithosphere.
  - D) abiotic.

Answer: A

- 31) Which of the following is true of the biosphere?
- A) Life processes generally are not shaped by the abiotic spheres.
  - B) Life processes generally are shaped by the abiotic spheres.
  - C) It is unique and therefore segregated from the other spheres.
  - D) It only occurs in the hydrosphere.

Answer: B

- 32) The realization that the earth was a sphere
- A) did not occur in Europe until the first voyages of Columbus.
  - B) had to wait until the modern era (1800s).
  - C) was first made by Pythagoras, 580-500 BC.
  - D) was made by Isaac Newton.

Answer: C

- 33) A value for Earth's circumference was first calculated by
- A) Columbus.
  - B) Pythagoras.
  - C) modern satellite measurements.
  - D) a librarian at Alexandria named Eratosthenes.

Answer: D

- 34) Which of the following statements about Earth is correct?
- A) It is elongated.
  - B) The earth is the second largest planet in the solar system.
  - C) The equatorial circumference is 57 km (42 mi.) greater than the polar circumference.
  - D) The earth is perfectly spherical.

Answer: C

- 35) The oblateness of the earth occurs at the
- A) poles.
  - B) equator.
  - C) subtropics.
  - D) prime meridian.

Answer: A

- 36) The earth's circumference is greatest when measured around the
- A) poles.
  - B) equator.
  - C) subtropics.
  - D) prime meridian.

Answer: B

- 37) The science that specifically attempts to determine Earth's shape and size by surveys and mathematical means is called
- A) geography.
  - B) geology.
  - C) cartography.
  - D) astronomy.
  - E) geodesy.

Answer: E

38) The individual who first determined the circumference of the earth did so using all but which of the following?

- A) geometry
- B) a water well
- C) the shadow of an obelisk
- D) camels
- E) All of these were used.

Answer: E

39) Which of the following is easily determined using the position of the Sun or stars?

- A) longitude
- B) latitude
- C) altitude

Answer: B

40) An angular distance measured north or south of the equator from the center of Earth is termed

- A) longitude.
- B) latitude.
- C) zenith.
- D) Greenwich distance.

Answer: B

41) If an observer determines that the North Star (Polaris) is located  $30^\circ$  above the horizon, then the observer is located at \_\_\_\_\_.

- A) 70 degrees north latitude
- B) 60 degrees north latitude
- C) 30 degrees north latitude
- D) 60 degrees north longitude
- E) 30 degrees north longitude

Answer: B

42) An angular distance measured east or west of a prime meridian from the center of Earth is termed

- A) longitude.
- B) latitude.
- C) zenith.
- D) Greenwich distance.

Answer: A

43) How far north you live from the equator is measured as your \_\_\_\_\_, whereas an imaginary line marking all those places at that same distance north of the equator is called a \_\_\_\_\_.

- A) longitude; meridian
- B) meridian; longitude
- C) latitude; parallel
- D) parallel; latitude
- E) location; place

Answer: C

- 44) The basis for defining the length of a day is the fact that
- A) Earth rotates east to west.
  - B) Earth moves through 365.25 days a year in its orbit about the Sun.
  - C) Earth rotates on its axis in 24 hours, i.e., it rotates 15 degrees of longitude per hour.
  - D) Earth does not rotate; rather, it revolves.

Answer: C

- 45) The meridian opposite of Earth's prime meridian (0 degrees longitude) is called
- A) Coordinated Universal Time.
  - B) Greenwich Mean Time.
  - C) the equator.
  - D) the International Date Line.

Answer: D

- 46) Latitude is
- A) the angular distance measured north or south of the equator.
  - B) the angular distance measured east or west of a prime meridian.
  - C) the basis for establishing meridians.
  - D) portrayed on a globe as lines that cross the equator at right angles.

Answer: A

- 47) The most extreme northern and southern parallels to experience perpendicular rays of the Sun at local noon are located at
- A) the equator.
  - B) 23.5 degrees north and south.
  - C) 45 degrees north and south.
  - D) 66.5 degrees north and south.

Answer: B

- 48) Areas located above \_\_\_\_\_ latitude experience 24 hours of daylight for six months of the year and 24 hours of night for six months of the year.
- A) 10 degrees
  - B) 23.5 degrees
  - C) 66.5 degrees
  - D) 80 degrees

Answer: C

- 49) Longitude is
- A) an angular distance measured north or south of the equator.
  - B) an angular distance measured east or west of a prime meridian.
  - C) the basis for establishing parallels.
  - D) determined by Sun altitude above the horizon.

Answer: B

- 50) If you were standing at 20 degrees north latitude, you would be within which latitudinal geographic zone?
- A) tropical
  - B) midlatitude
  - C) equatorial
  - D) subarctic
  - E) subtropical

Answer: A

- 51) A line connecting all points along the same longitudinal angle is called a
- A) meridian.
  - B) parallel.
  - C) prime latitudinal angle.
  - D) great circle.

Answer: A

- 52) (place your city here) approximate location is best described as
- A) *(place your latitude and longitude here as presented in lecture)*
  - B) 105 degrees north latitude by 41 degrees west longitude.
  - C) north and east of Greenwich, London, England.
  - D) south and east of Greenwich, London, England.

Answer: A

- 53) Longitude is conveniently determined at sea using
- A) chronometers.
  - B) pendulum clocks as in olden days.
  - C) magnetic compasses.
  - D) sextants and Sun angles.

Answer: A

- 54) Which of the following is not true of meridians?
- A) They cross parallels at right angles.
  - B) They are lines which run in an east-west direction.
  - C) All meridians are the same length.
  - D) They are used to measure east-west angular distances.

Answer: B

- 55) The letters AM stand for
- A) after midnight.
  - B) after morning.
  - C) ante majolica.
  - D) ante meridiem.
  - E) after meridian.

Answer: D

- 56) The letters PM stand for
- A) prior majolica.
  - B) previous morning.
  - C) post meridiem.
  - D) possible meridian.

Answer: C

- 57) The letters AM and PM refer to the time at which
- A) the Sun's rays first appear above the eastern horizon at dawn.
  - B) the Sun's rays first disappear below the western horizon at dusk.
  - C) the Sun is directly overhead at noon.
  - D) the Sun crosses the equator moving north on the first day of Spring.

Answer: C

58) Which of the following is true of the length (as measured in kilometers) of a degree of latitude?

- A) It is constant at all latitudes.
- B) It is longer near the equator than near the poles.
- C) It is shorter near the equator than near the poles.
- D) It is shorter near the prime meridian than near the international dateline.

Answer: A

59) If City A is located west of City B, the time at City A is \_\_\_\_\_ than that at City B because the earth rotates from \_\_\_\_\_ when viewed from above the North Pole.

- A) earlier; west to east (i.e., counterclockwise.)
- B) earlier; east to west (i.e., clockwise.)
- C) later; west to east (i.e., counterclockwise.)
- D) later; east to west (i.e., clockwise.)

Answer: A

60) If a clock on a ship indicates that it is 2:00 PM in its home port, while another clock on the ship indicates that it is 12:00 noon at the ship's present location, what is the difference in longitude between the ship's position and its home port?

- A) The ship is 2 degrees east of its home port.
- B) The ship is 2 degrees west of its home port.
- C) The ship is 30 degrees east of its home port.
- D) The ship is 30 degrees west of its home port.
- E) The ship is 45 degrees west of its home port.

Answer: D

61) If you began a trip at 60 degrees west, 20 degrees north and traveled 120 degrees farther west and 50 degrees south, your new position would be

- A) the International Dateline at 70 degrees north latitude.
- B) the International Dateline at 30 degrees south latitude.
- C) the Greenwich meridian at 70 degrees north latitude.
- D) the Greenwich meridian at 30 degrees south latitude.
- E) 30 degrees north, 120 degrees west.

Answer: B

62) If it is 10:00 PM on July 3rd at 30 degrees west, what date and time is it at 15 degrees east?

- A) July 3rd; 11:00 PM
- B) July 3rd; 9:00 PM
- C) July 3rd; 6:00 PM
- D) July 4th; 1:00 AM
- E) July 4th; 2:00 AM

Answer: D

63) Standard time zones

- A) have yet to be generally established.
- B) are 15 degrees wide because Earth rotates through that distance in one hour.
- C) are only used in the developed countries.
- D) are spaced at 5 degree intervals of longitude in North America.

Answer: B

- 64) If it is 10:00 AM in Miami, Florida (Eastern time zone), what time is it in Los Angeles, California located 3 time zones to the west in the Pacific Time zone?
- A) 7:00 AM
  - B) 8:00 AM
  - C) 1:00 PM
  - D) 2:00 PM

Answer: A

- 65) Which of the following is true of the prime meridian just prior to the year 1884?
- A) Most countries were already using the Greenwich meridian for their land maps.
  - B) All countries were already using the Greenwich meridian for their marine maps.
  - C) The United States used a combination of the Washington meridian for land maps and the Greenwich meridian for marine maps.
  - D) There was no such thing as a prime meridian before 1884.

Answer: C

- 66) UTC refers to
- A) the International Date Line.
  - B) Universal Time Conference.
  - C) Coordinated Universal Time.
  - D) a system of local time using phases of the Moon.

Answer: C

- 67) Time is now precisely measured with primary standard clocks that are based on
- A) very precise pendulum motion.
  - B) the pulsed vibrations of quartz crystals.
  - C) the vibration of cesium atoms.
  - D) the pulse rate of pulsar stars.

Answer: C

- 68) The practice of setting time ahead or behind during the year, out of coordination with the Sun, is termed
- A) Coordinated Universal Time.
  - B) Daylight Saving Time.
  - C) Standard Time.
  - D) Greenwich Mean Time.

Answer: B

- 69) The earliest known maps date to \_\_\_\_\_ and were made by \_\_\_\_\_.
- A) 45,000 BC; Neanderthals
  - B) 2,300 BC; the Babylonians
  - C) 500 BC; the Greeks
  - D) 700 AD; the Catholic Church
  - E) 1100 AD; Mongol warriors

Answer: B

- 70) The part of geography that embodies map making is known as
- A) theodesy.
  - B) geodesy.
  - C) cartography.
  - D) calligraphy.

Answer: C

- 71) A great circle is
- A) any parallel of latitude.
  - B) the shortest distance between two places on the surface of the earth.
  - C) a circle of circumference whose center coincides with the center of Earth.
  - D) a correct magnetic compass direction on a flat map.

Answer: C

- 72) Earth's equator is an example of
- A) a small circle.
  - B) a great circle.
  - C) a prime meridian.
  - D) a line of equal longitude.

Answer: B

- 73) A map scale of 1:24,000 means that
- A) one inch on the map equals 24,000 inches on the ground.
  - B) one centimeter on the map equals 24,000 centimeters on the ground.
  - C) one foot on the map equals 24,000 feet on the earth.
  - D) all of the above
  - E) none of the above

Answer: D

- 74) Any orderly system of parallels and meridians drawn on a flat surface is called a
- A) diagram.
  - B) cone.
  - C) map projection.
  - D) globe.

Answer: C

- 75) A scale given as "one centimeter to one kilometer" is an example of a
- A) representative fraction.
  - B) graphic scale.
  - C) written scale.
  - D) All of these are correct.

Answer: C

- 76) Which of the following is an example of an intermediate map scale?
- A) 1:3,168,000
  - B) 1:63,360
  - C) 1 cm = 0.25 km (1 in. = 2000 ft)
  - D) 1:125,000

Answer: D

- 77) Which type of map scale would be appropriate to use if the map were to be enlarged by Xeroxing?
- A) written
  - B) graphic
  - C) representative fraction

Answer: B

- 78) The larger the scale of a map, the \_\_\_\_\_ the area covered by the map and the \_\_\_\_\_ detail it provides.
- A) larger; more
  - B) larger; less
  - C) smaller; more
  - D) smaller; less

Answer: C

- 79) Objects appear \_\_\_\_\_ on large scale maps.
- A) large
  - B) small
  - C) It is impossible to compare the relative size of the same features on maps of different scales.

Answer: A

- 80) Which of the following describes the property of equal area on a map?
- A) equivalence
  - B) conformality
  - C) proximity
  - D) equidistance

Answer: A

- 81) Which of the following describes the property of true shape on a map?
- A) equivalence
  - B) conformality
  - C) proximity
  - D) equidistance

Answer: B

- 82) Which of the following possesses all the earth properties of area, shape, direction, proximity, and distance, correctly?
- A) Mercator projection
  - B) Alber's equal-area conic projection
  - C) Robinson projection
  - D) a world globe

Answer: D

- 83) Of the principal map projection classes, which cannot be generated using a physical-perspective approach, i.e., an approach based on the projection of the shadow of a wire-skeleton globe onto a geometric surface?
- A) cylindrical
  - B) oval
  - C) conic
  - D) planar

Answer: B

- 84) On which one of the following projections do great circle routes appear as straight lines?
- A) Mercator projection
  - B) Goode's homolosine projection
  - C) any conic projection
  - D) a gnomonic projection

Answer: D

- 85) On the Mercator projection, areas at high latitudes appear \_\_\_\_\_.
- A) larger than areas of the same size located nearer to the equator
  - B) smaller than areas of the same size located nearer to the equator
  - C) the same size as areas of the same size located nearer to the equator

Answer: A

- 86) In plotting true magnetic compass readings (i.e., rhumb lines) between two points, which map projection is generally used?
- A) Robinson projection
  - B) Mercator projection
  - C) Goode's homolosine projection
  - D) any conic projection

Answer: B

- 87) The change in the proportional size of features at high latitudes on a Mercator map occurs because
- A) meridians are stretched apart at high latitudes.
  - B) there are no tangent lines anywhere on the map.
  - C) shearing is used to create the map.
  - D) a conic projection is used to create the map.

Answer: A

- 88) If you were preparing a map showing the distribution of world climates, which type of map projection would you want to use to allow accurate comparison of areas and regions?
- A) equal area
  - B) a gnomonic projection
  - C) true shape
  - D) a Mercator projection

Answer: A

- 89) Which of the following is a cylindrical map projection?
- A) Robinson projection
  - B) Mercator projection
  - C) Goode's homolosine projection
  - D) sinusoidal equal-area projection

Answer: B

- 90) Which of the following is not a class of map projection?
- A) cylindrical
  - B) planar
  - C) conical
  - D) geometrical

Answer: D

- 91) An isoline denoting all points at the same elevation is called
- A) an isobar.
  - B) an isotherm.
  - C) an isohyet.
  - D) a contour line.

Answer: D

92) Global Positioning System (GPS) units

- A) recently found the correct height of Mount Everest to be 8850 m (29,035 feet.)
- B) show your location accurate to 100 m.
- C) are used in Precision Agriculture.
- D) are used by surveyors and the military.
- E) are used for all of these.

Answer: E

93) Which of the following is the most popular and widely used map prepared by the U.S. Geological Survey?

- A) a topographic map
- B) a Robinson projection
- C) a resources map
- D) portolan chart

Answer: A

94) Remote sensing is

- A) a subjective determination of temperature.
- B) the monitoring of a distant object without physical contact.
- C) an earthbound technique not used in modern satellites.
- D) based on the principle that surfaces must be physically handled and directly measured for study.

Answer: B

95) The use of aerial photographs to improve the accuracy of surface maps is called

- A) the electromagnetic spectrum.
- B) photogrammetry.
- C) GIS.
- D) calligraphy.

Answer: B

96) Satellite images are based on

- A) standard photographic film which is recovered after the satellite is returned to the earth.
- B) digital data that is stored electronically and then transmitted to Earth by radio waves.
- C) holographic images created using laser-generated interference patterns.
- D) all of the above

Answer: B

97) A satellite imaging system that beams electromagnetic energy at the surface and then records the energy that is reflected is classified as a/an \_\_\_\_\_ system.

- A) active
- B) passive
- C) photographic
- D) holographic

Answer: A

98) Which of the following is an example of an active remote sensing device?

- A) film
- B) infrared sensor
- C) video camera
- D) radar

Answer: D

99) Which of the following is a capability of a geographic information system (GIS)?

- A) data storage
- B) data manipulation and analysis
- C) map production with overlays of different information layers
- D) GIS systems can do all of the above.
- E) data storage, manipulation, and analysis only

Answer: D

100) Which of the following is a capability of a geographic information system (GIS)?

- A) data storage
- B) data manipulation and analysis
- C) map production with overlays of different information layers
- D) all of the above
- E) A and B only.

Answer: D

101) GIS is being used to

- A) monitor flood hazard areas.
- B) plan urban development.
- C) analyze crime trends.
- D) help fight wildfires.
- E) All of these are uses of GIS.

Answer: E

102) Which of the following is an advantage of a geographic information system?

- A) production of specialized maps suited to the needs of specific users
- B) rapid production of maps based on continuously updated information
- C) analysis of spatial information
- D) creation of data overlays showing the spatial relationships between two or more variables
- E) All of these are advantages.

Answer: E

103) Geography is a discipline defined by a specific body of content and subject matter rather than by an approach.

Answer: True  False

104) The essential approach in geographic studies is spatial analysis.

Answer:  True  False

105) Areas that display a degree of unity are called regions.

Answer:  True  False

106) Systems methodologies are not applicable to geographic analysis.

Answer: True  False

107) Photosynthesis in a plant leaf is an example of an open-system operation.

Answer:  True  False

108) Positive feedback tends to amplify or encourage response in system operations.

Answer:  True  False

- 109) Negative feedback tends to lead a system to self-regulation.  
Answer:  True  False
- 110) A model is essentially a simplification of natural systems.  
Answer:  True  False
- 111) Longitude measures distances east or west of a prime meridian on Earth's surface.  
Answer:  True  False
- 112) Latitude is the angular distance measured north or south of the equator from the center of Earth and it describes a parallel line on the surface.  
Answer:  True  False
- 113) Longitude is the name of an angle, and "meridian" is the name of an imaginary line on Earth's surface.  
Answer:  True  False
- 114) Latitude is easily determined using celestial objects whereas longitude is not easily calculated in such a manner and requires time-keeping devices.  
Answer:  True  False
- 115) Coordinated Universal Time is the present name for world standard time.  
Answer:  True  False
- 116) The prime meridian and the 180th meridian are opposite halves of the same great circle.  
Answer:  True  False
- 117) All parallels are 360 degrees in length.  
Answer:  True  False
- 118) The day officially changes on Earth at the prime meridian.  
Answer:  True  False
- 119) If it is July 3rd in Tokyo (139 degrees E), it is July 4th in Los Angeles (118 degrees W).  
Answer:  True  False
- 120) Geographers consider maps to be "tools."  
Answer:  True  False
- 121) A map scale of 1:24,000 is considered a small scale as compared to a scale of 1:20,900,000, which is considered a large scale.  
Answer:  True  False
- 122) A written scale appears on maps as a bar graph.  
Answer:  True  False
- 123) A twelve-inch diameter globe has a smaller scale than a 33-inch globe.  
Answer:  True  False
- 124) The globe is the only map that accurately portrays all spatial relationships characteristic of Earth's surface.  
Answer:  True  False

- 125) Cylindrical map projections, such as the Mercator, have a rectangular grid, i.e., parallels and meridians cross at right angles.  
Answer:  True  False
- 126) In order for shape to be preserved on a map, the parallels and meridians must intersect at right angles.  
Answer:  True  False
- 127) A gnomonic light source is located at the surface of a globe.  
Answer:  True  False
- 128) Maps that are intended to show spatial distributions should be based on projections that minimize area distortion, rather than shape distortion.  
Answer:  True  False
- 129) A circular surface area, when drawn on a map designed to preserve area, might appear as an oval.  
Answer:  True  False
- 130) A Landsat or weather satellite image is an example of passive remote sensing.  
Answer:  True  False
- 131) Pure science frequently involves the making of value judgments about the moral or political correctness of a fact, idea, or theory.  
Answer:  True  False
- 132) Because scientific ideas are tested, they can be corrected when they are wrong.  
Answer:  True  False
- 133) Scientific theories are capable of generating testable predictions.  
Answer:  True  False
- 134) List the five principal themes of modern geographic education.  
Answer: location; place; region; human-Earth relationship; movement
- 135) A \_\_\_\_\_ is any ordered, interrelated set of objects and attributes as distinct from their surrounding environment. A \_\_\_\_\_ represents an idealized part of the real world greatly simplified.  
Answer: system; model
- 136) Earth's nonliving systems are called \_\_\_\_\_ and include the \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_. Earth's living system is called the \_\_\_\_\_, and is also sometimes referred to as the \_\_\_\_\_.  
Answer: abiotic; atmosphere; hydrosphere; lithosphere; biosphere; ecosphere
- 137) \_\_\_\_\_ is an entity that assumes a physical shape and occupies space, whereas \_\_\_\_\_ is a capacity to do work.  
Answer: Matter; energy
- 138) A \_\_\_\_\_ is any circle of Earth's circumference whose center coincides with the center of Earth. All other circles on Earth constitute \_\_\_\_\_.  
Answer: great circle; small circles
- 139) The four classes of map projections are called: \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_.  
Answer: planar; cylindrical; conic; oval

140) At least three methods of expressing scale on maps are: \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_.

Answer: written; graphic; representative fraction

141) Geography is a \_\_\_\_\_ science, and the part of geography that involves map making is \_\_\_\_\_.

Answer: spatial; cartography