

### Chapter 3 Assessment

#### Vocabulary

Select the correct term to complete the sentences.

axis	bathymetric map	topographic map
coordinates	contour line	elevation
legend	map	sea level
equator	origin	globe
latitude	position	slope
longitude	prime meridian	vector
international date line	relief	

#### Section 3.1

- A variable that is described using both a number and a direction is called a(n) \_\_\_\_.
- A(n) \_\_\_\_ is a representational drawing of a location.
- Because a(n) \_\_\_\_ is a sphere, Earth's landforms are represented accurately.
- The  $x$ - \_\_\_\_ is horizontal on a graph or grid.
- The \_\_\_\_ of the origin of a graph are (0, 0).
- The \_\_\_\_ is the place where position equals zero.
- The \_\_\_\_ is a line that falls between the North and South Poles on Earth and represents  $0^\circ$  latitude.
- \_\_\_\_ lines are imaginary, horizontal lines on Earth's surface that run east-west and represent north and south locations.
- The \_\_\_\_ of an object is given relative to an origin.
- \_\_\_\_ lines are imaginary lines on Earth's surface that run north-south and represent east and west locations.
- The \_\_\_\_ is a line that is perpendicular to the equator and that represents  $0^\circ$  longitude.
- You are halfway around the world from the prime meridian at the \_\_\_\_.
- A(n) \_\_\_\_ is list of symbols used on a map.

#### Section 3.2

- On a mountain top, the \_\_\_\_ is higher than at sea level.
- The average water level of the ocean along a coastline is called \_\_\_\_.
- \_\_\_\_ describes the distance between high and low places on a map.
- A(n) \_\_\_\_ is a map that shows the surface features of an area and shows elevation by using contour lines.
- A flat region of land has a(n) \_\_\_\_ of zero.
- A(n) \_\_\_\_ on a topographic map shows a region of equal elevation.

#### Section 3.3

- A(n) \_\_\_\_ is a map that shows the depths of bodies of water.

#### Concepts

#### Section 3.1

- Are the following directions usually considered positive or negative? Write + for positive or - for negative.
 

a. ____ up	e. ____ north
b. ____ down	f. ____ south
c. ____ left	g. ____ east
d. ____ right	h. ____ west

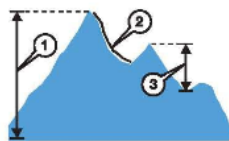
2. If you are given  $x$ - $y$  axes coordinates of (4, 9), which axis is represented by the number 9?
3. The word *hemisphere* means "half a sphere." Which latitude divides Earth into the northern and southern hemispheres?
4. On what continent is the sign shown to the right located?
5. Lines of latitude are parallel to which imaginary line?
  - a. prime meridian
  - b. international date line
  - c. equator
  - d. The Mid-Atlantic Ridge
6. Fill in the blanks. All the places in Australia have \_\_\_\_\_ (north or south) latitude lines and \_\_\_\_\_ (east or west) longitude lines.
7. If you wanted to see an accurate representation of the sizes of the continents, would you use a Mercator projection map? Why or why not?
8. Why is a legend an important part of a map? What would happen if a map did not include a legend?
9. A verbal scale is 1 centimeter = 1 meter. Use this information to make a bar scale that shows a distance of 4 meters.



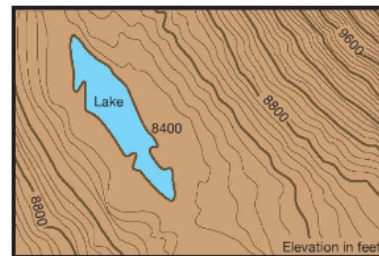
**Section 3.2**

10. Label this diagram using the following terms. One term will not be used.
 

a. slope	c. elevation
b. relief	d. sea level



11. How are plane table surveying and photogrammetry similar and different? Answer this question as a short paragraph.
12. Look at the topographic map below.



- a. Where are the steepest slopes on the map?
- b. Where is the lowest elevation shown on this map?
- c. What is the lowest elevation?
- d. Where are the gentlest slopes?

**Section 3.3**

13. List two differences between a topographic map and a bathymetric map.
14. Briefly describe how scientists measure the depths of various parts of the ocean.
15. A topographic map of a mountain with one high peak would look most like which type of bathymetric map?
  - a. A map of a circular lake that is very deep.
  - b. A harbor on the west coast of the U.S.
  - c. A long, shallow river.
  - d. A mountain stream.

## Chapter

## 3

## MAPPING EARTH

**Problems****Section 3.1**

- The location of the Tropic of Cancer is about  $23.5^\circ$  north of the equator. The location of the Tropic of Capricorn is about  $23.5^\circ$  south of the equator. About how far apart are these two lines of latitude in kilometers?  
Hint: Each degree of latitude represents 111 kilometers.
- When it is 4 a.m. at the international date line, at which longitude will a new day be beginning?
  - $30^\circ$  west
  - $60^\circ$  north of the equator
  - $15^\circ$  east of the international date line
  - $60^\circ$  west of the international date line
- A map is drawn with 1 centimeter equal to 2 miles.
  - How many centimeters equal 10 miles?
  - How many miles does 4 centimeters represent?
- Use the world map on the next page to answer the following questions.
  - Where would you be at Lat.  $0^\circ$  Long.  $0^\circ$ —on water or on land?
  - Through what continent does the international date line cross?
  - Give the locations of the marked cities to the closest whole degree. Use this format for writing the locations: New York, Lat.  $41^\circ$  N Long  $74^\circ$  W. The space between each line represents 10 degrees.

**Section 3.2**

- The scale of a topographic map is 1:250,000, which means 1 centimeter on the map equals 250,000 centimeters on land. How many kilometers is 250,000 centimeters?

- Look at the topographic map from Concepts Question 12. How many feet does each contour line represent? (Hint: Subtract 8400 from 8800 and divide the answer by the number of lines between these two elevations.)

**Section 3.3**

- Imagine you want to know the depth of a lake. You have a really long pole and a measuring tape. How could you use these tools to find out how deep the lake is?

**Applying Your Knowledge****Section 3.1**

- Look at a globe or another kind of world map. Pick a place that you have never been. Answer the following questions.
  - What is the name of this place?
  - What is its location in latitude and longitude?
  - What hemisphere is it in—the north or the south? The east or the west?
  - Make a hypothesis about the kind of weather that is common in this place. Justify your answer.

**Section 3.2**

- Make a sketch that shows a topographic map of a mountain that has a very steep slope on one side and a very gradual slope on the other side.

