

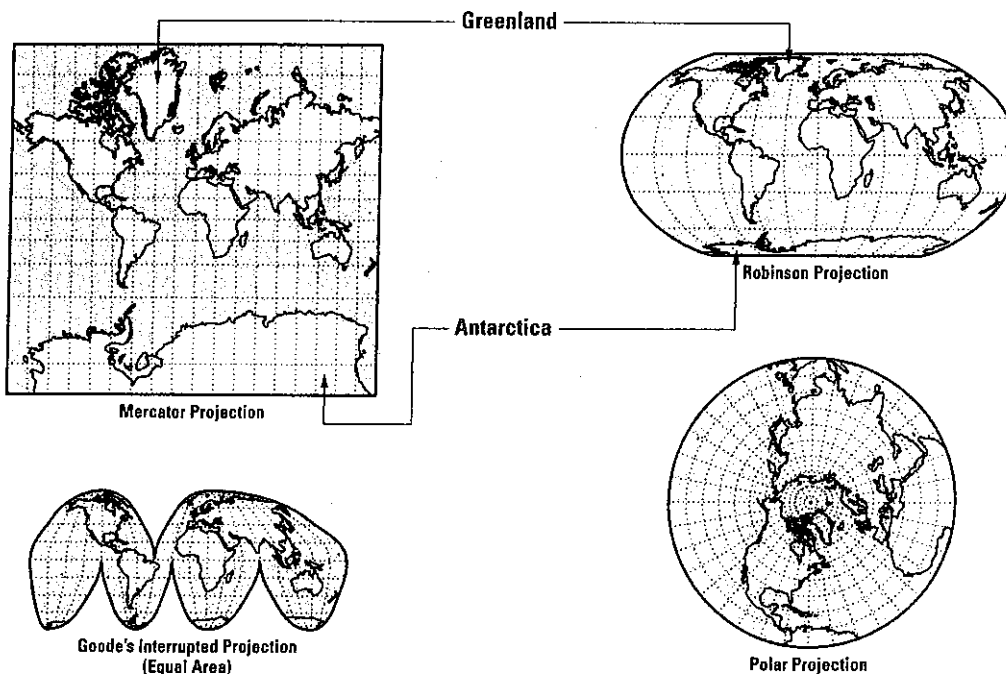


# GEOGRAPHY SKILLS 1 *Understanding Projections*

The earth is a sphere and is best shown as a globe. For books and posters, though, the earth has to be represented as a flat object. To do this, mapmakers create various plans called projections.

A projection turns every location on earth into a corresponding location on a map. However, all projections distort to some degree. Flat maps cannot show size, shape, and direction all at once with total accuracy. That is why the look and location of

Earth's features will not totally agree on maps of different projections. For example, areas such as Greenland and Antarctica, farthest from the Equator, are often stretched. Goode's Interrupted avoids stretching and is more accurate for land areas. Polar projections show the earth from above either the North Pole or South Pole. Below are four common projections.



1. Name the four projections. \_\_\_\_\_
2. Compare the sizes of Greenland and Antarctica on the Mercator projection with the Robinson projection. \_\_\_\_\_  
\_\_\_\_\_
3. What would you consider the main drawback of Goode's Interrupted projection?  
\_\_\_\_\_
4. Why do you think that the Mercator projection is considered the best for plotting direction?  
\_\_\_\_\_

## GEOGRAPHY SKILLS 2 *Recognizing Latitude and Longitude*

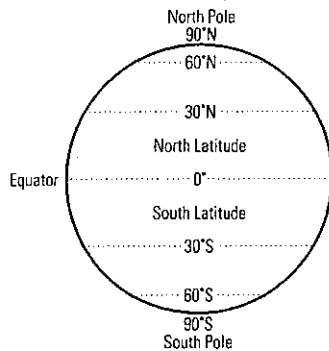
Most maps contain imaginary horizontal and vertical lines of measurement. Horizontal lines, running east and west, are called latitude lines or parallels. Vertical lines, running north and south, are called longitude lines or meridians. The lines are numbered in degrees (shown by the symbol  $^{\circ}$ ).

Latitude starts at  $0^{\circ}$ , known as the equator, where the earth is at its widest. There are 90

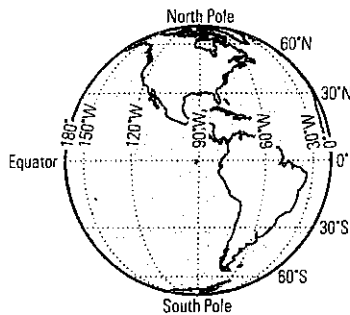
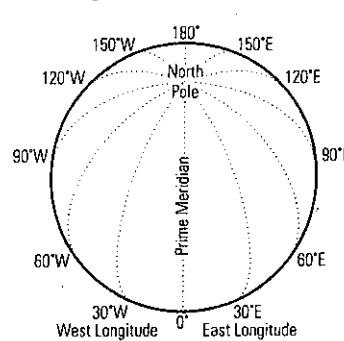
degrees north of the equator and 90 degrees south of it. Longitude starts at  $0^{\circ}$ , the Prime Meridian, and goes 180 degrees west and 180 degrees east.

Because latitude and longitude cross and form a grid, the use of these lines to locate places is called the grid system. Every place in the world has a single grid location—where its latitude and longitude intersect. Study the maps below.

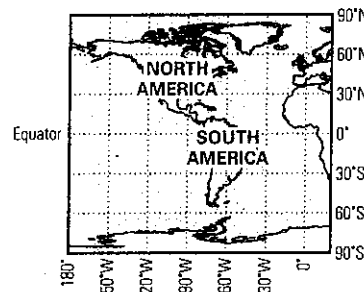
**Latitude Lines (Parallels)**



**Longitude Lines (Meridians)**



**Latitude and Longitude Grid**



**North and South America**

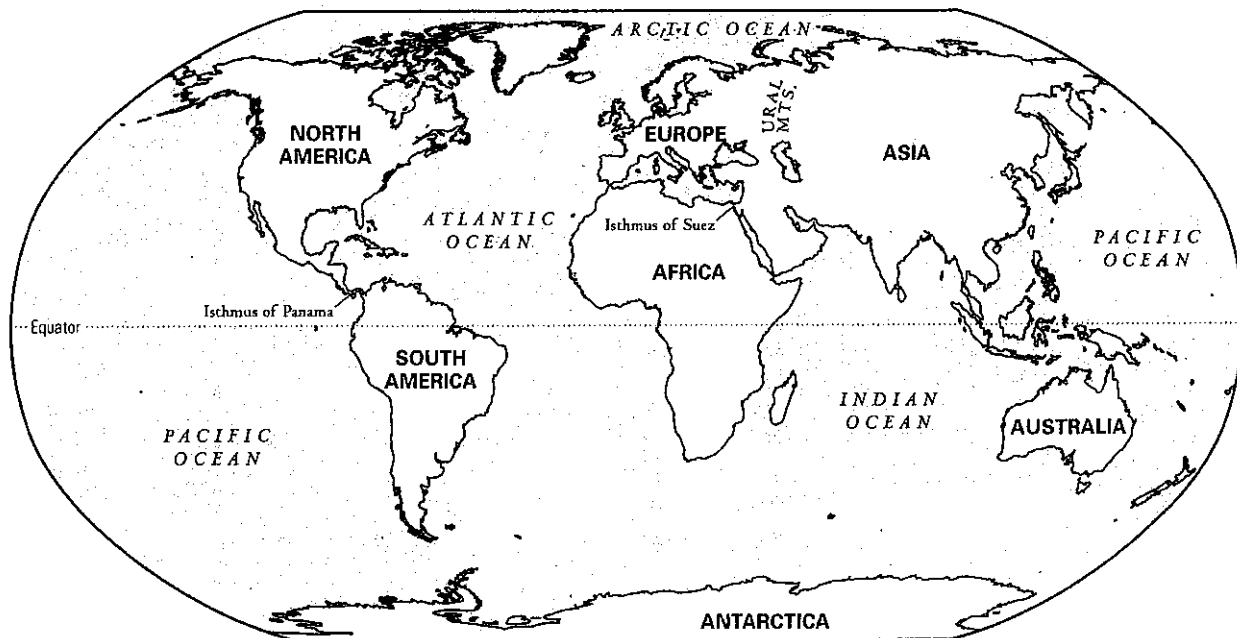
- How many degrees separate the North Pole from the South Pole? \_\_\_\_\_
- Between about what longitude and latitude degrees does most of the connected United States fall?  
\_\_\_\_\_
- An airplane lost from radar at  $5^{\circ}$  S and  $55^{\circ}$  W was over which continent?  
\_\_\_\_\_
- Mark the map titled "North and South America" at the approximate point where a ship in distress at  $45^{\circ}$  S and  $5^{\circ}$  E might be found.



## GEOGRAPHY SKILLS 3 *Recognizing Continents and Oceans*

Complete knowledge of the features of the earth's surface is only a few hundred years old. As recently as the 1300s, the Atlantic Ocean was a mysterious "Sea of Darkness" on a flat surface. The regions of the Arctic, Pacific, and Antarctic oceans were unknown. There were also great misconceptions about the world. For example, Europeans knew of the region of the Indian Ocean but thought it was a great salt lake surrounded by land. They assumed Asia could be reached from the west only by land.

Today the earth is completely mapped and classified. The largest units of Earth's land are called continents. Except for the division between Europe and Asia, they are generally well defined. Two continents are islands, and isthmuses—narrow necks of land—clearly separate others. The oceans are merely names given to the largest sections of the body of salt water that covers 71 percent of the globe. Study the map below.



1. What are the seven continents? \_\_\_\_\_  
\_\_\_\_\_
2. Which geographical formation separates the Americas? separates Asia from Africa? \_\_\_\_\_  
\_\_\_\_\_
3. What appears to divide Asia from Europe? \_\_\_\_\_
4. Where is most of the earth's land mass—north or south of the equator? \_\_\_\_\_
5. A trip from Australia to Africa would cross which ocean? \_\_\_\_\_

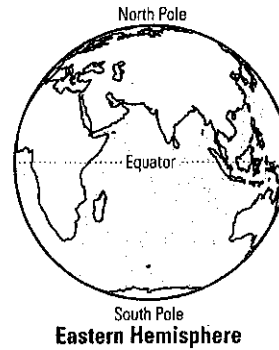
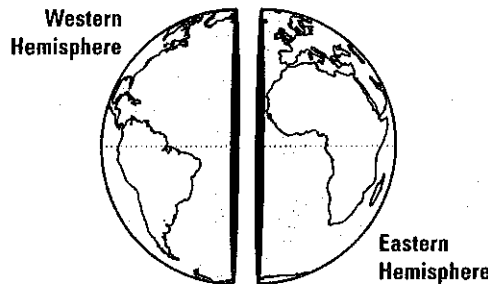
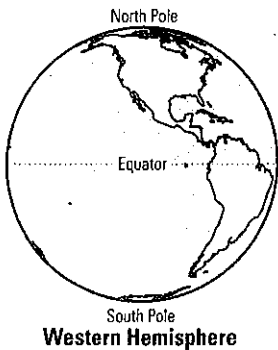
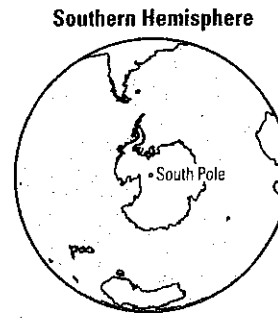
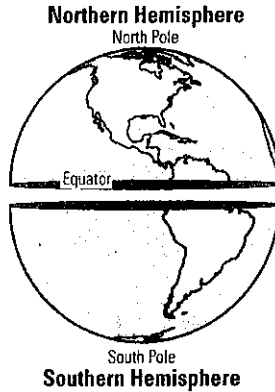
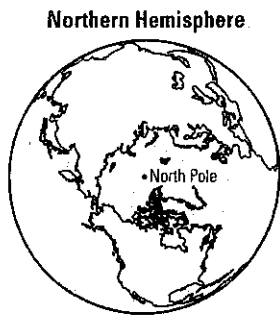


## GEOGRAPHY SKILLS 4 *Designating Hemispheres*

The study of the earth does not always involve the entire planet at once. Mapmakers often deal with large sections of the earth called hemispheres.

The word *hemisphere* combines *sphere*—meaning anything round, like a ball—with the prefix *hemi*—meaning “half.” The world can be divid-

ed into any of four hemispheres—Northern, Southern, Western, and Eastern. They are illustrated below by both bird’s-eye and profile views. Hemispheres are further dramatized by the cutting of the globe horizontally and vertically. Study the globes below.



1. Why do you think the word *hemisphere* accurately describes the six globes shown above?

\_\_\_\_\_

2. The vertically cut globe creates what two hemispheres? \_\_\_\_\_

3. Name the continents found all or mostly in the Northern Hemisphere. \_\_\_\_\_

\_\_\_\_\_

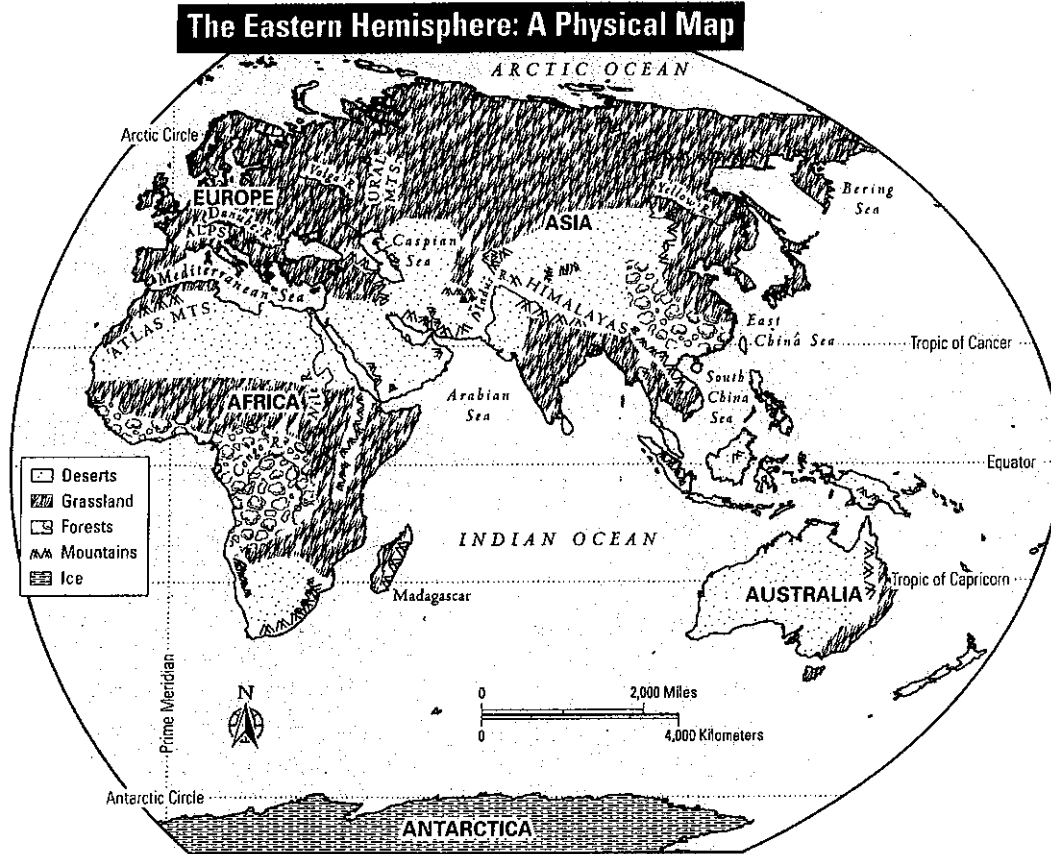
4. Look at the globes for the northern and southern hemispheres. What is the main difference between the North and South poles? \_\_\_\_\_



## GEOGRAPHY SKILLS 5 *Reading Physical Maps*

Physical maps show the earth's physical features, such as bodies of water and landforms. Among other natural features, these maps show where rivers, lakes, mountains, and types of vegeta-

tion such as grasslands and forests are located. Below is a physical map of the Eastern Hemisphere. Study it and answer the questions.



1. Which continent is almost totally desert? \_\_\_\_\_
2. Ice is the sole physical feature of what continent? \_\_\_\_\_
3. What is the only totally inland sea that is identified? \_\_\_\_\_
4. What is the prominent physical feature of Northern Asia? \_\_\_\_\_
5. What are the physical features of Africa below the equator? \_\_\_\_\_  
\_\_\_\_\_

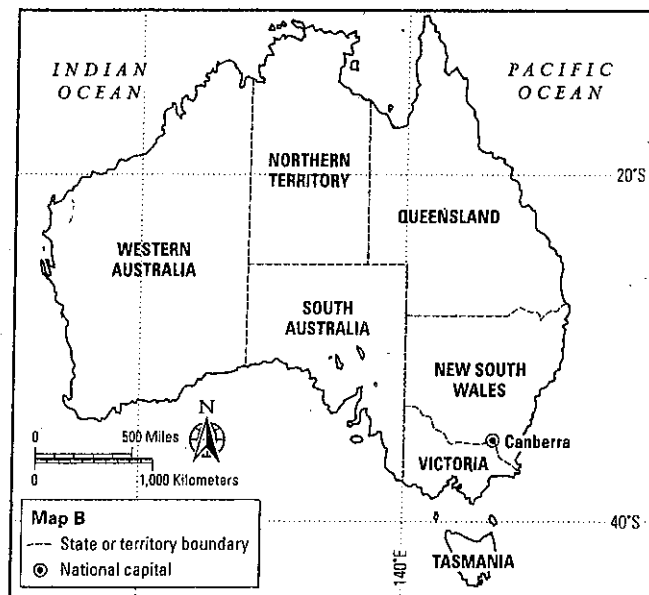
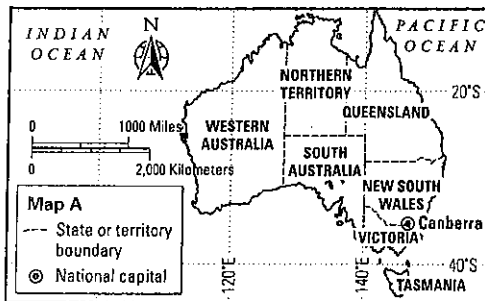
OUTLINE  
MAP

## GEOGRAPHY SKILLS 6

# Using Scales and the Compass Rose

The scale of a map helps you determine the actual size or length of any of its features or of any distance between two points. It is a ratio between a unit of length on a map and a unit of distance on the earth. Typically, a scale shows a length of line and indicates the number of miles or kilometers that length represents on the map. A map that covers 1,000 miles per inch has a scale of 1:1,000.

The compass rose is a pointed symbol that shows a map's direction on the globe. It is usually placed on an area of the map near one edge, away from map details that could make the device difficult to find. On maps showing both water and land, the compass rose is usually placed on the water. The compass rose may show all four cardinal directions—N, S, E, W—or just one, north. Study the maps below and answer the questions.



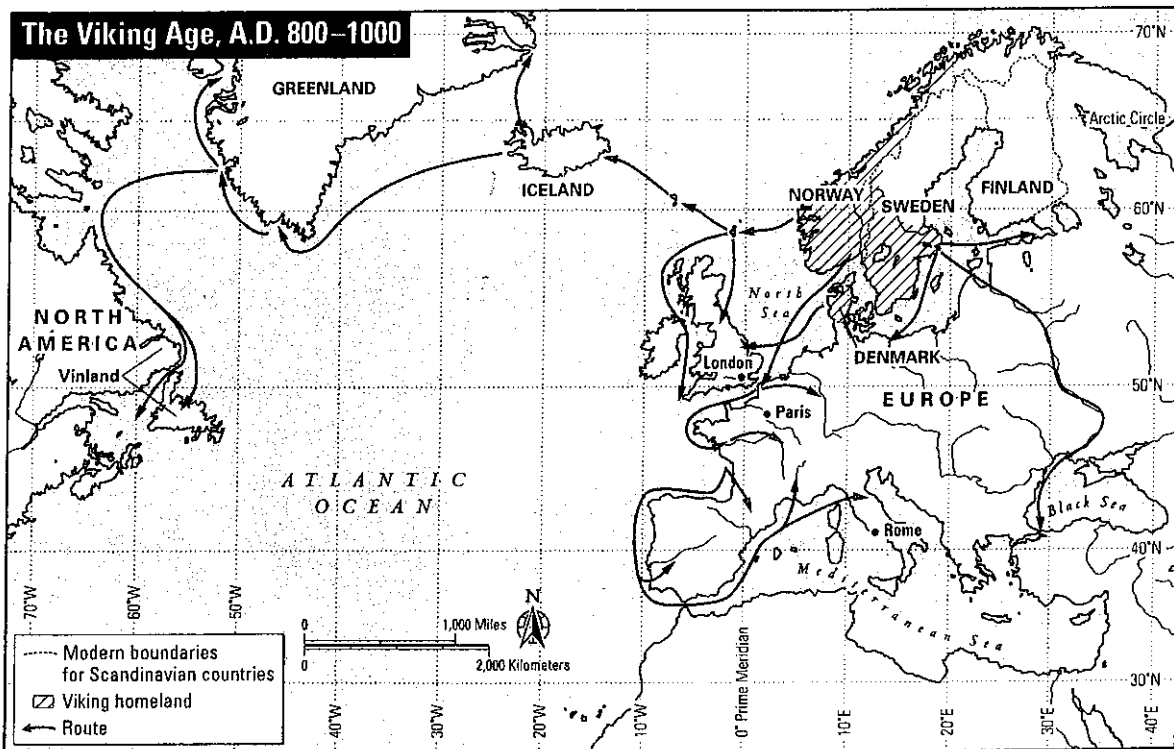
1. Is Tasmania north, south, east, or west of Australia? \_\_\_\_\_
2. About how many inches wide is Australia as it is shown in Map A? (Use a ruler to measure across the widest part of the continent.) \_\_\_\_\_
3. What is the approximate distance across Australia in miles? \_\_\_\_\_
4. How much larger is Australia in Map B than it is in Map A? \_\_\_\_\_

## GEOGRAPHY SKILLS 7 *Interpreting Lines, Labels, and Symbols*

Maps show more than just size and direction. They also define borders of cities, regions, states, and countries. They can be used to depict historical events, to demonstrate how geography has influenced history, and to illustrate human interaction with the environment.

Such information found on a map comes from a reading of its various lines, labels, and symbols. Lines of various width indicate land boundaries,

types of roads and waterways, and routes of movement. Labels are words on a map that identify such things as cities, states, countries, continents, and bodies of water. Symbols are decorative objects such as large circles, dots, stars, and bursts used to identify an area's special features—cities, battle sites, resources, and the like. Study the map below and answer the questions.



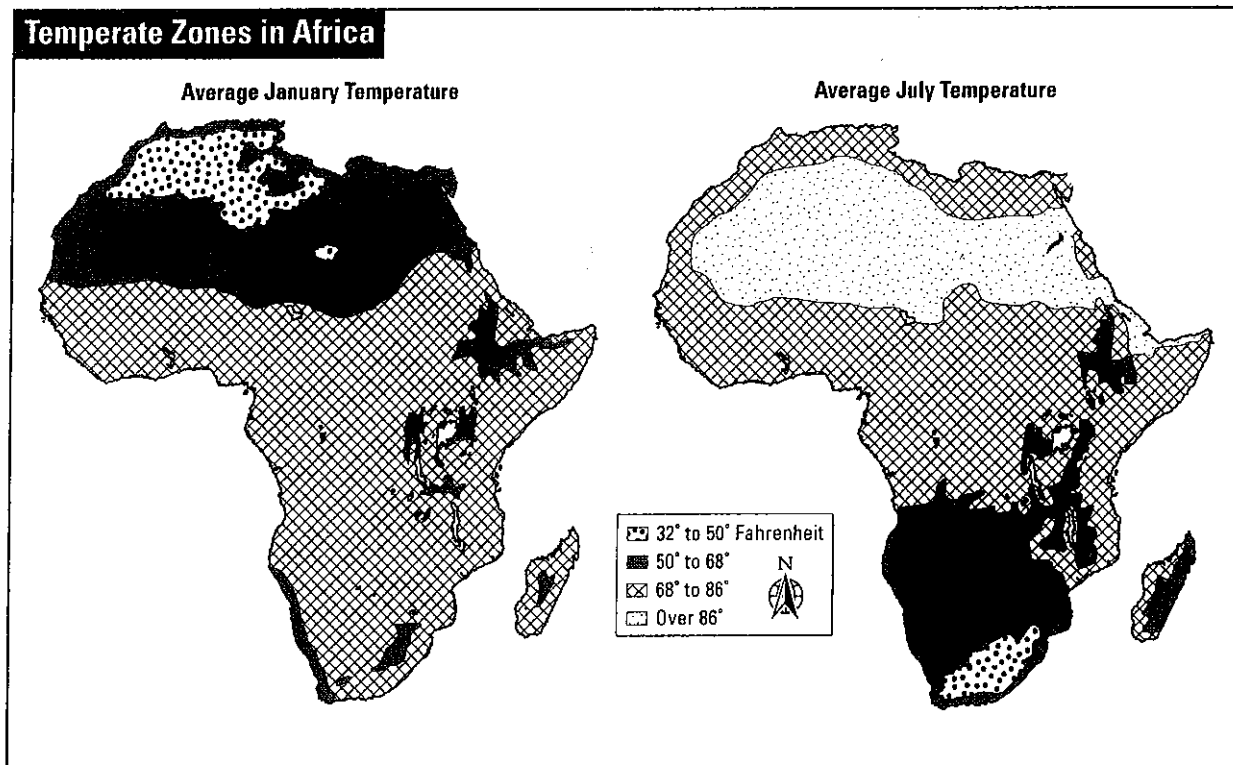
1. Vikings came from a region of four present-day countries north of Europe called Scandinavia. Which one, identified on the map, was not a point of origin for Vikings? \_\_\_\_\_
2. Which of the cities on the map is farthest from the Vikings' homeland? \_\_\_\_\_
3. What direction did the Vikings go to reach Greenland? \_\_\_\_\_
4. What is the region of North America where the Vikings landed? \_\_\_\_\_
5. The Arctic Circle runs just south, north, east, or west of Iceland? \_\_\_\_\_

**GEOGRAPHY SKILLS 8** *Understanding Legends (Keys)*

The lines and symbols that appear on a map often need further explanation. For this reason, a legend, also known as a key, is often used. A legend is a small table within a map that explains what some symbols and lines mean.

A legend is also used to indicate the meaning of any patterned or colored areas on a map. For black-and-white maps, patterns such as diagonal

lines, large and small dot fields, and cross-hatching are commonly used to show separate regions within a particular boundary. For maps printed in color, the same distinctions are shown by use of different colors. The legend reproduces a sampling of the pattern or color and then identifies what it stands for. Study the map below and answer the questions.



1. What do the different patterns on the maps represent? \_\_\_\_\_

2. What temperature range does not appear in Africa in January? \_\_\_\_\_

3. In which large region is the average July temperature more than 86 degrees? \_\_\_\_\_

4. In which region of Africa does the temperature stay virtually unchanged throughout the year? \_\_\_\_\_