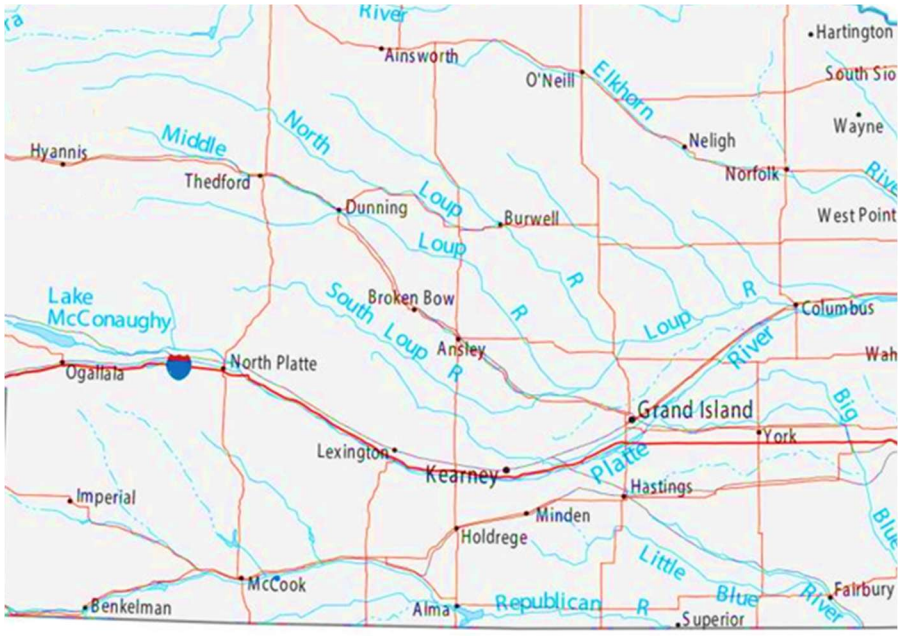
Homework #1

Read Chapter 1 (pages 3 – 12). Answer these questions on notebook paper.

1. Globes use imaginary lines to form a grid that allows geographers to locate places in the world.
    a. What are the vertical (north-south) lines called?
    b. What are the horizontal (east-west) lines called?
    c. What is the equator?
    d. What is the prime meridian?
    e. What are the Tropics of Cancer and Capricorn? (See the attached map sheets.)
2. Use the internet to find the absolute location (latitude and longitude) of the following places:
    a. New Braunfels, Texas
    b. Greenwich, England
    c. Sydney, Australia
    d. Lima, Peru
3. When cartographers make a map, in which four features do they try to reduce distortion?
4. List one advantage and one disadvantage of a Mercator projection map.
5. List one advantage of a Robinson projection map.
6. Bonus: + 5 points: Print out the Waterman map projection. Cut it out and neatly fold it into the shape of the globe. Bring it to class next week.
7. What does GIS stand for?
8. List five ways GIS data is collected.
9. The map below is printed at a scale of 1 inch = 150 miles. Use a ruler to find the straight-line distance in miles between:
    a. North Platte and Norfolk: _____ miles
    b. Hyannis and Fairbury: _____ miles

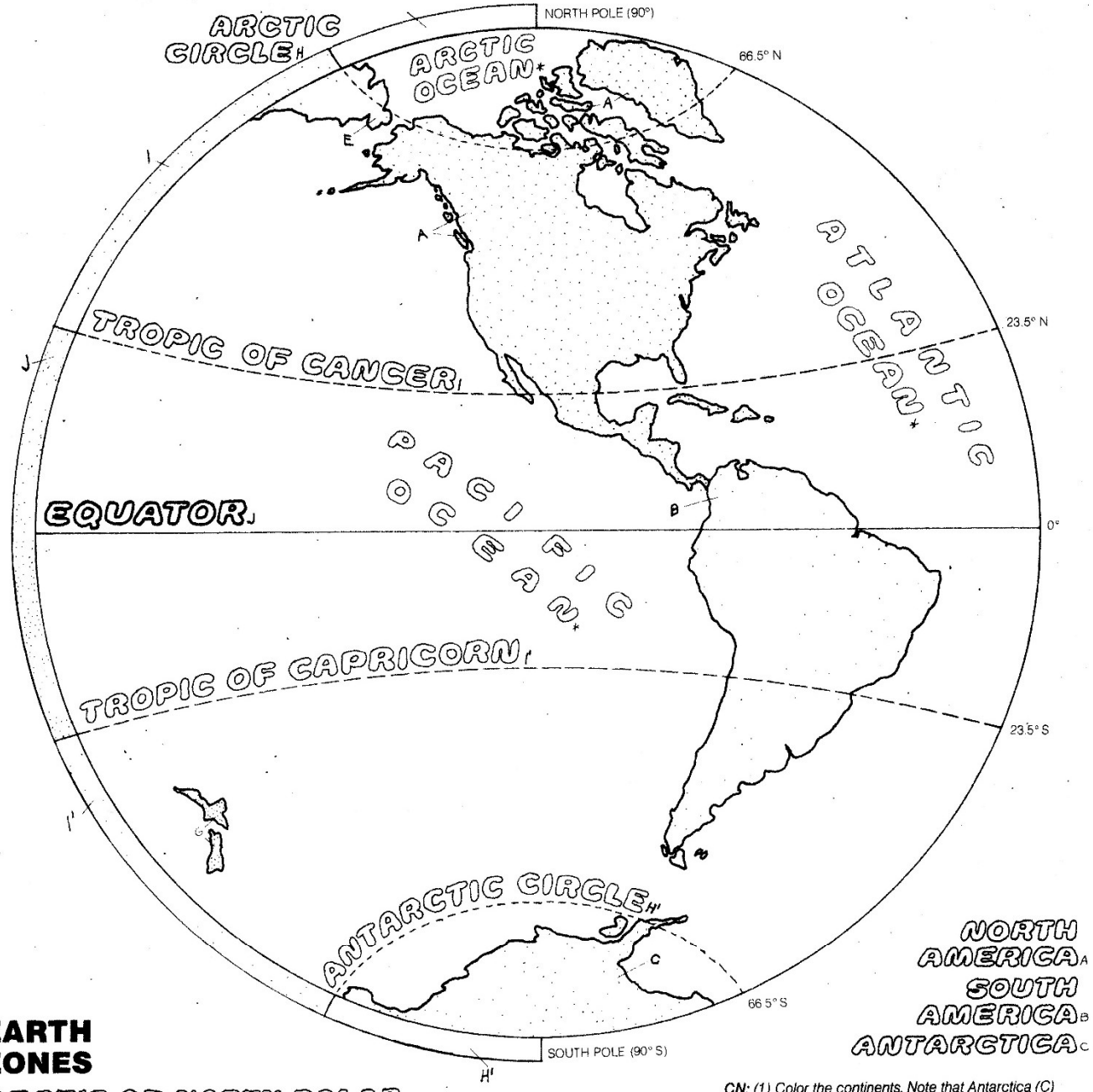


10. What is the difference between a relief map and a thematic map?
11. What does GPS stand for?
12. What is GPS used for?
13. Write the definition of "culture" found in the book.

Read the information on the maps of the continents of the Western and Eastern Hemispheres (see the following pages). Color the maps with map pencils, and follow these instructions:

- Color the continent and the letters in the name of the continent the same color.
- Color the letters of the names of the oceans gray.
- Color the continents on the small globe the same color that you used on the large globe.

CONTINENTS OF THE WESTERN HEMISPHERE



EARTH ZONES

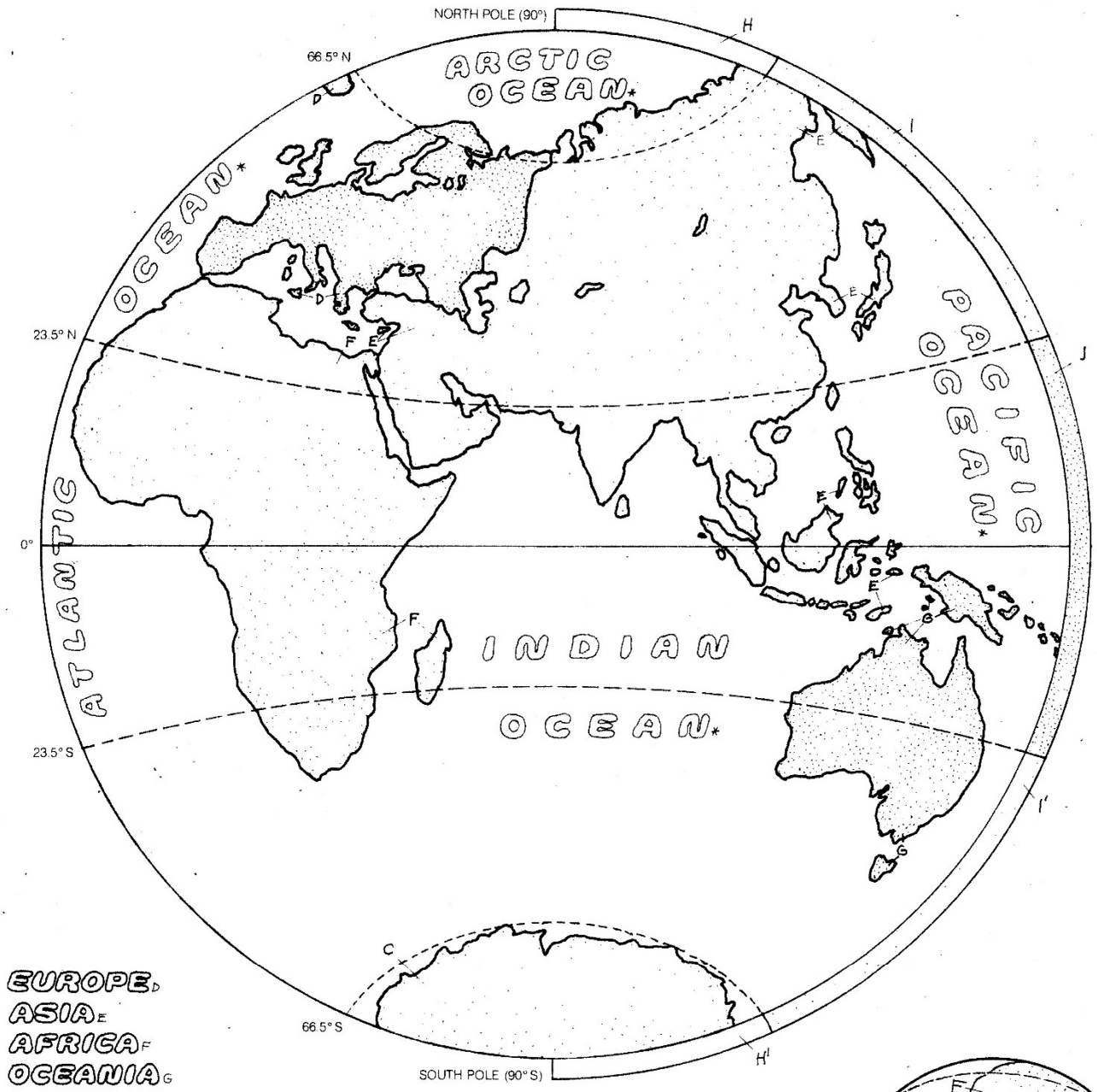
ARCTIC OR NORTH POLAR H
NORTH TEMPORATE I
TROPICAL OR TORRID J
SOUTH TEMPORATE I'
ANTARCTIC OR SOUTH POLAR H'

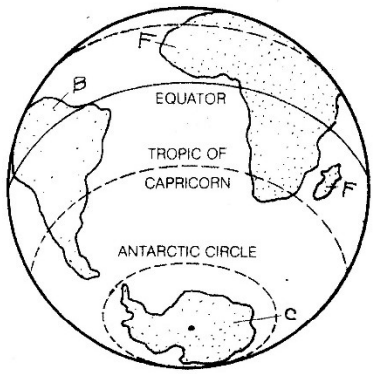
CN: (1) Color the continents. Note that Antarctica (C) can be seen in its entirety on the small globe. (2) Color the titles of the oceans gray. (3) Color the names of the Earth Zones and the outer bands of the large maps, which represent the regions of each zone.

The four seasons occur only in the temperate zones. The *Arctic Circle,* 23.5° from the *North Pole,* is the southern boundary of the *Arctic or North Polar Zone.* In this zone, the sun fails to rise during the winter months. The sun stays below the horizon for one day at the Arctic Circle and for six months at the North Pole. During the summer, the sun fails to set for a comparable period of time. The *Tropic of Capricorn* is the southern boundary of the Tropical Zone and the southernmost parallel (23.5°S) where the sun appears overhead (noon of the winter solstice; see p. 44). This line also marks the northern border of the *South Temperate Zone,* which is limited to the south by the *Antarctic Circle* (23.5° from the *South Pole*); this is also the northern boundary of the *Antarctic Zone or South Polar Zone or Region.*

Earth zones are defined by imaginary lines of latitude circling the globe, parallel to the *Equator.* The latitude lines shown above are not parallel because of the type of map projection used (they are parallel in the small global view to the right). The *Tropical* or *Torrid Zone* is the largest and hottest. The sun is always shining directly over some part of this zone. It is bounded by the *Tropics of Cancer and Capricorn.* The *Equator* passes through the center of the Tropical Zone, halfway between the two poles, dividing the earth into *Northern and Southern Hemispheres.* The northern boundary of the Tropical Zone is the *Tropic of Cancer,* the northernmost parallel (23.5° N latitude) where the sun shines directly overhead (noon of the summer solstice; see p. 44). About 75% of the earth's population lives in the *North Temperate Zone.*

CONTINENTS OF THE EASTERN HEMISPHERE





Continents are large land masses with adjacent islands, surrounded or nearly surrounded by water. The seven continents cover slightly less than 30% of the earth's surface. The rest of our "water planet" is covered by four *oceans* and many *seas* (shallower extensions of oceans, partially surrounded by land).

CONTINENT	% OF TOTAL	LAND AREA	% OF TOTAL	POPULATION
Asia	29.5	17,230,000 sq. mi. (44,625,700 km²)	60.4	3,695,000,000
Africa	20.0	11,700,000 sq. mi. (30,279,600 km²)	12.9	820,000,000
North America	16.3	9,400,000 sq. mi. (24,346,680 km²)	8.2	485,000,000
South America	11.8	6,000,000 sq. mi. (17,871,400 km²)	5.7	345,000,000
Antarctica	9.6	5,400,000 sq. mi. (13,986,000 km²)	—	—
Europe	6.5	3,810,000 sq. mi. (9,867,900 km²)	12.4	740,000,000
Oceania	5.2	3,300,000 sq. mi. (8,547,000 km²)	0.4	28,500,000

OCEAN	% OF TOTAL	OCEAN AREA	MAXIMUM DEPTH
Pacific	49.2	64,100,000 sq. mi. (165,890,800 km²)	36,170 ft. (11,027 m)
Atlantic	24.6	32,220,000 sq. mi. (83,385,360 km²)	30,200 ft. (9,207 m)
Indian	22.0	28,900,000 sq. mi. (74,793,200 km²)	24,440 ft. (7,451 m)
Arctic	4.2	5,300,000 sq. mi. (13,716,400 km²)	—