Name _____ Class_____Date_____

Skills Worksheet

Directed Reading

Section: Mapping Earth's Surface

1. What is a globe?

_____

2. What are the advantages of globes?

_____

_____

_____

_____

3. Why did people develop a variety of maps for studying and displaying information about Earth?

_____

_____

HOW SCIENTISTS MAKE MAPS

4. What is the science of making maps called?

_____

5. What do cartographers use to make maps?

_____

_____

6. How do cartographers conduct field surveys?

_____

_____

_____

7. What do cartographers do with the information they collect during a field survey?

_____

_____

_____

8. What is remote sensing, and how do cartographers use it?

_____

_____

_____

_____

_____

9. How are maps often made?

_____

_____

_____

MAP PROJECTIONS

In the space provided, write the letter of the description that best matches the term or phrase.

_____ 10. map projection

_____ 11. cylindrical projection

_____ 12. azimuthal projection

_____ 13. conic projection

a. projection made by placing a paper cone over a lighted globe so that the axis of the cone aligns with the axis of the globe.

b. a projection made by placing a sheet of paper over a globe such that the paper touches it at only one point

c. a flat map that represents the three-dimensional curved surface of a globe

d. a projection made by wrapping a paper cylinder around a lighted globe

14. What happens when a curved surface is transferred to a flat map?

_____

15. In what ways may an area shown on a map be distorted?

_____

_____

16. How is the size of the area shown on a map related to the distortion? Give examples.

_____

_____

17. How do meridians that appear on a cylindrical projection differ from meridians on a globe?

_____

_____

_____

18. Describe the accuracy and distortion of a cylindrical projection.

_____

_____

19. What are two advantages of cylindrical projections?

_____

_____

_____

20. Describe the accuracy and distortion of an azimuthal projection.

_____

_____

_____

_____

21. Why are azimuthal projections a great help to navigators plotting routes used in air travel?

_____

_____

_____

22. Where does the cone touch the globe in a conic projection?

_____

_____

23. Where is there the least distortion in a conic projection?

_____

_____

24. What is a polyconic projection and why is it useful?

_____

_____

_____

READING A MAP

_____ 25. What must you be able to do to read a map?
- a. understand the symbols, be able to find directions, and calculate distances
- b. know where to research the history of map making
- c. memorize the distances between key points and find directions
- d. know the compass points and understand the symbols

_____ 26. What is the first step in correctly interpreting a map?
- a. align the map by wrapping it around a globe
- b. look up the symbols in a dictionary
- c. determine how the compass directions are displayed
- d. find your current location on the map

_____ 27. How are maps commonly drawn?
- a. north at top, east at the right, west at the left, south at the bottom
- b. east at top, north at the right, west at the left, south at the bottom
- c. north at top, east at the left, west at the right, south at the bottom
- d. south at top, east at the right, west at the left, north at the bottom

_____ 28. Where do parallels and meridians run on most maps?
- a. Meridians run from side to side, parallels from top to bottom.
- b. Parallels run from side to side, meridians from top to bottom.
- c. Parallels run from top to side, meridians from top to bottom.
- d. Parallels run from top to bottom, meridians from side to side.

_____ 29. On maps drawn by the USGS, what features are marked by parallels?
- a. the eastern and the western boundary
- b. the western and the eastern boundary
- c. the southern and the western boundary
- d. the northern and the southern boundary

_____ 30. How are eastern and western boundaries of USGS maps indicated?
- a. by parallels
- b. by meridians of longitude
- c. by framed edges
- d. by curved lines

_____ 31. What is a compass rose?
a. a symbol that indicates the latitude and longitude
b. a symbol that indicates the directions for finding distance
c. a symbol that indicates the cardinal directions
d. a symbol that indicates the blue jay directions

_____ 32. What are the cardinal directions?
a. northeast and southwest
b. all the points on the compass
c. north and south
d. north, east, south, and west

_____ 33. The arrow that points north on some maps is
a. generally labeled and may not point to the top of the map.
b. generally unlabeled and may not point to the top of the map.
c. generally labeled and always points to the top of the map.
d. generally unlabeled and always points to the top of the map.

Use the terms from the list below to complete the sentences that follow. Each term may be used only once. Some terms may not be used.

Parallel	fractional scale	legend
graphic scale	symbol	verbal scale
longitude	scale	

34. A list of map symbols and their meaning is called a _____

35. On a map, a _____ may resemble the feature it represents or it may be more abstract.

36. The relationship between the distance shown on a map and the actual distance is the _____ .

37. A printed line with ruler-like markings that represents a unit of measurement, such as the kilometer or mile, is called a _____ .

38. The ratio 1:25,000 printed on a map is an example of a _____ .

39. The sentence "One centimeter is equal to one kilometer." is an example of a _____ .

40. How do you find the actual distance between two points on Earth using a graphic scale?

_____

_____

41. What does the fractional scale 1:10,000 on a map indicate?

_____

42. What happens to a fractional scale when different systems of measurement are used? Give an example.

_____

_____

43. What is an isogram?

_____

_____

_____

44. What are the meanings of *iso-* and *-gram?*

_____

_____

45. What are isobars?

_____

_____

46. What is true of isobars on a weather map?

_____

_____

47. Why will isobars never cross one another?

_____

_____

48. What do scientists commonly use isograms to show?

_____

_____

_____