Circle T if the statement is true or F if the statement is false

T  F  1. The Precambrian is the oldest part of the geologic time scale
T  F  2. The Precambrian lasted for about 4 billion years
T  F  3. The first organisms to live on Earth were dinosaurs
T  F  4. Radiometric dating of zircon grains in metamorphosed sedimentary rocks in Australia indicate the Earth is about 3.1 billion years old
T  F  5. The oldest moon rocks collected are about 3.6 billion years old
T  F  6. Scientists think that Earth and meteorites are about the same age because they hypothesize that the solar system formed at once

Fill in the blanks using the words from the table below

crust crystallize differentiation float granite
lava mantle nickel oceanic crust subduction

7. When Earth formed, the dense minerals iron and __________________ were concentrated at Earth’s core

8. Minerals with low densities tend to ________________ at cooler temperatures than do denser minerals

9. The common crustal rock __________________ is mainly composed of feldspar, quartz, and mica, which are minerals with low densities

10. Less-dense minerals become concentrated near Earth’s surface by __________________ flowing from the hot interior

11. Denser minerals concentrated below Earth’s surface and formed the rocks make up Earth’s ________________

12. The process by which a planet becomes internally zoned is called ____________________

13. Earth’s ___________________ probably formed as a result of the cooling of the uppermost mantle

14. Sediment-covered slabs of Earth’s earliest crust were recycled into the mantle at __________________ zones

15. Less-dense material such as crust has a tendency to __________________ on more-dense material such as the mantle

16. A difference in density causes the __________________ to be lower in elevation than the less-dense granitic continental crust
Complete the table below

17. General name for a core of Archean and Proterozoic rock ____________________________
18. North American core of Proterozoic rock ____________________________
19. Can be seen over a large part of Greenland ____________________________
20. Buried and exposed parts of a shield ____________________________

Use the terms below to complete the passage

Archean   liquid water   minerals   oceans   outgassing   water vapor

Seawater probably originated largely form the same process of (21) ____________________________ that formed the atmosphere. A major component of the gas that was vented from early Earth was (22) ____________________________. As the early atmosphere and surface of Earth cooled, the water vapor in the atmosphere condensed to form (23) ____________________________. During the (24) ____________________________, rain slowly filled the low-lying areas on Earth. The low-lying were underlain by basalt, and as these basalt-floored basins filled, they formed the (25) ________________.

Rainwater reacted with the (26) ____________________________ exposed at Earth's surface and dissolved them, making the oceans of the Precambrian salty. ____

Match the word or terms to the correct definition

_____ 27. Have been found in waters of hydrothermal vents A. Enzymes
_____ 28. Needed by RNA and DNA for reproduction on modern organisms B. Amino acids
_____ 29. Sites where life may have originated C. Ribozyme
_____ 30. A self-replicating, enzyme-like RNA molecule D. RNA
_____ 31. Essential characteristics of life E. Hydrothermal vents
_____ 32. May have been first self-replicating molecules on Earth F. Ability to reproduce

Circle the letter that corresponds to the correct answer

33. An organism composed of a single cell, which does not contain a nucleus, and is the simplest kind of cell, is
   a. A eukaryotes
   b. A prokaryote
   c. An acritarch
   d. Amino acid

34. An organism composed of cells that contain nuclei is a(n)
   a. Eukaryotes
   b. Prokaryote
   c. Animo
   d. Acritarch
35. Eukaryotes differ from prokaryotes in the most eukaryotes are
   a. Smaller
   b. Simpler
   c. Larger
   d. Found only in stromatolites

36. The oldest known fossil eukaryotes are
   a. Related to cyanobacteria
   b. Smaller than modern single-celled eukaryotes
   c. Similar to jellyfish
   d. About 2.1 billion years old

37. Scientists disagree on whether the Ediacaran biota were
   a. Present at hydrothermal vents
   b. Lacking a mouth, anus, or gut
   c. Ancestor of modern fauna
   d. Distributed throughout the world

38. The Ediacaran biota are generally believed to be
   a. Animals composed of eukaryotic cells
   b. Animals composed of prokaryotic cells
   c. Algae
   d. Cyanobacteria

39. Ediacaran biota probably were widely distributed in the oceans of the
   a. Early Precambrian
   b. Late Proterozoic
   c. Early Cambrian
   d. Last century

40. The absence of tracks and trails leads scientists to speculate that the Ediacaran biota were
   a. Already extinct by the late Proterozoic
   b. Plants
   c. Relatively immobile
   d. Prokaryotes