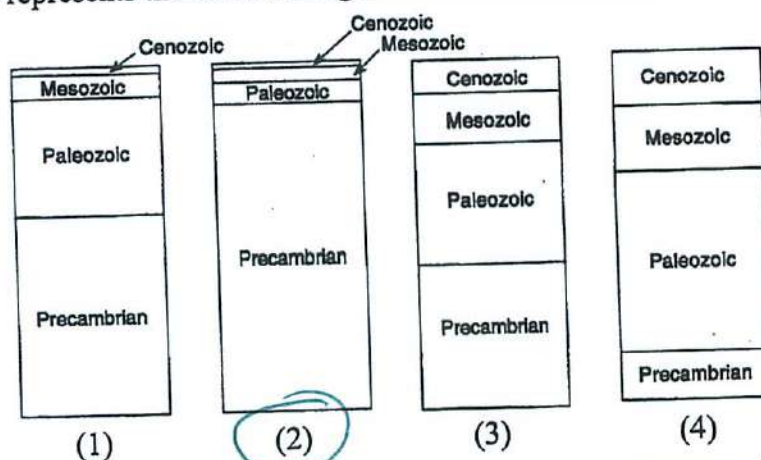


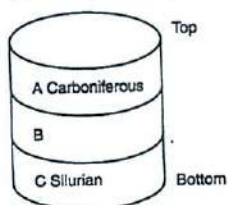
1. Which column best represents the relative lengths of time of the major intervals of geologic history?



1 2

2. The geologic drill core below shows bedrock layers A, B, and C that have not been overturned. The geological age of layer B is

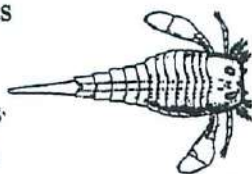
- (1) Cambrian
- (3) Devonian
- (2) Ordovician
- (4) Permian



2 3

3. The index fossil below was found in surface bedrock in New York State. This index fossil is representative of a group of invertebrate animals known as

- (1) trilobites
- (2) stromatolites
- (3) brachiopods
- (4) eurypterids



3 4

4. Which important New York State fossil is most likely to be found in the Triassic Age rocks in the Newark Lowlands?

- (1) eurypterid
- (2) mastodont
- (3) coelophysis
- (4) Naples tree

4 3

5. Trilobite fossils were recently discovered in Himalayan Mountain bedrock. During which geologic period could this bedrock have been formed?

- (1) Neogene
- (2) Cretaceous
- (3) Triassic
- (4) Cambrian

5 4

6. During which geologic time period was Stylonurus alive and abundant?

- (1) Cambrian
- (2) Jurassic
- (3) Silurian
- (4) Devonian

6 4

7. Which major mountain-building episode is most recent?

- (1) Grenville orogeny
- (2) Taconian orogeny
- (3) Acadian orogeny
- (4) Alleghenian orogeny

7 4

8. During which era did the initial opening of the present-day Atlantic Ocean most likely occur?

- (1) Cenozoic
- (2) Mesozoic
- (3) Late Proterozoic
- (4) Paleozoic

8 2

The cartoon below illustrates possible interaction between humans and mammoths.



The primitive game of "Pull the mammoth's tail and run"

9. During which geologic timespan could this "game" have occurred?

- (1) Pleistocene Epoch
- (2) Pennsylvanian Epoch
- (3) Precambrian Era
- (4) Paleozoic Era

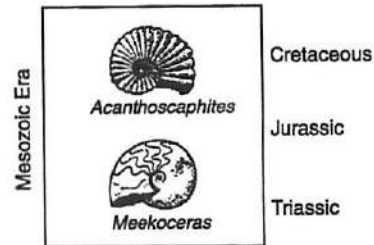
9 1

10. During which geologic epoch did the glacier retreat from New York State?

- (1) Pleistocene
- (2) Eocene
- (3) Late Pennsylvanian
- (4) Early Mississippian

10 1

Base your answers to question 11 on the chart below, which shows the geologic ages of some well known fossils



11. Which New York State fossil is found in rocks of the same period of geologic history as Meekoceras?

- (1) Condor
- (2) Eurypterus
- (3) Placoderm fish
- (4) Coelophysis

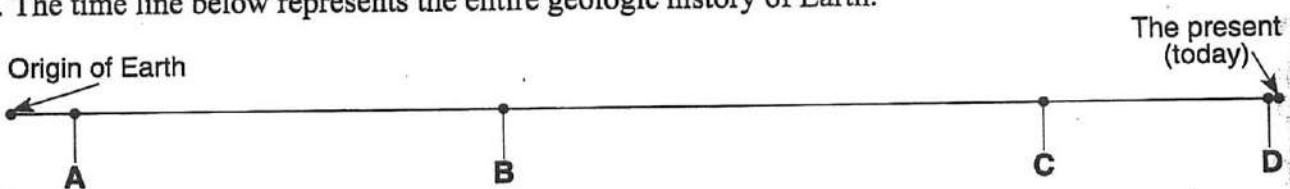
11 4

12. Bedrock of which four consecutive geologic periods is best preserved in New York State?

- (1) Cambrian, Ordovician, Silurian, Devonian
- (2) Devonian, Carboniferous, Permian, Triassic
- (3) Permian, Triassic, Jurassic, Cretaceous
- (4) Jurassic, Cretaceous, Paleogene, Quaternary

12 1

13. The time line below represents the entire geologic history of Earth.

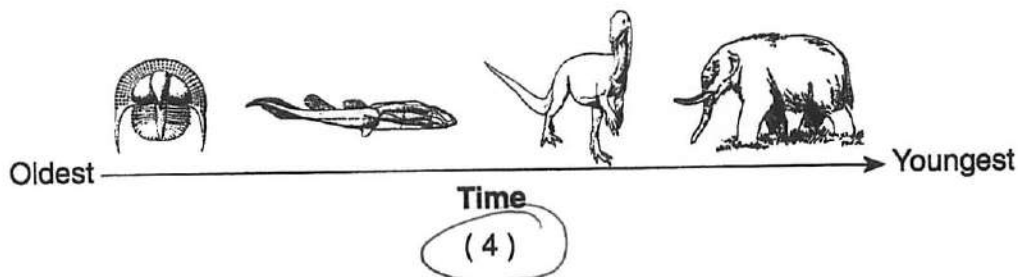
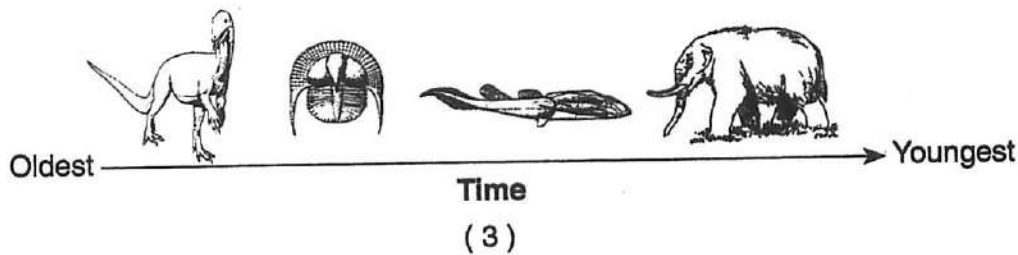
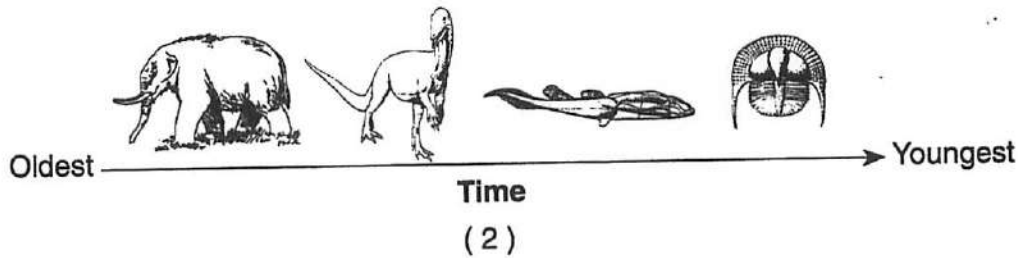
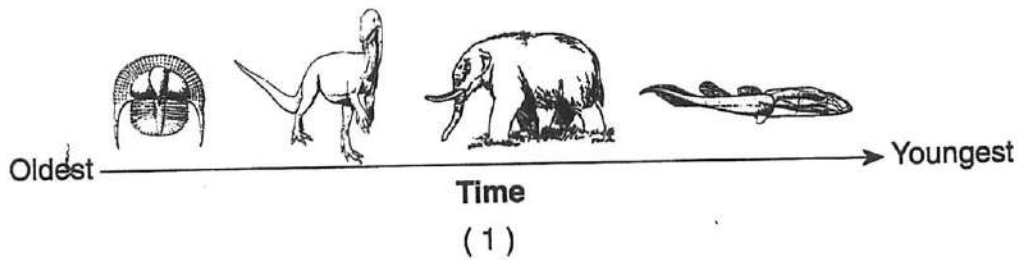


Which letter best represents the first appearance of humans on Earth?

- (1) A
- (2) B
- (3) C
- (4) D

13 4

14. Which sequence of New York State index fossils shows the order in which the organisms appeared on Earth?



14 \_\_\_\_\_

15. State one tectonic event affecting North America that occurred near the same time as the intrusion of the Palisade Sill.

Pangaea begins to break up or Initial opening of Atlantic ocean  
or North America and Africa Separate

16. According to the geologic record, during which geologic time period were the sands and clays underlying Long Island and Staten Island deposited?

Cretaceous

## Set 2 — Geologic History of New York State

17. Trilobite fossil remains are most likely to be found in bedrock of

- (1) Precambrian age near Mt. Marcy
- (2) Cretaceous age on Long Island
- (3) Cretaceous age northwest of New York City
- (4) Ordovician age near Plattsburgh

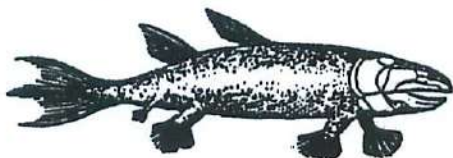
17 4

18. Which mountain range resulted from the collision of North America and Africa, as parts of Pangea joined together in the late Pennsylvanian Period?

- (1) Alleghenian Mountains
- (2) Acadian Mountains
- (3) Taconic Mountains
- (4) Grenville Mountains

18 1

19. The primitive lobe-finned fish shown below is thought to be an ancestor of early amphibians.



This evolutionary development from fish to amphibian is believed to have occurred during the

- (1) Triassic Period
- (2) Devonian Period
- (3) Tertiary Period
- (4) Permian Period

19 2

20. Based on the theory of plate tectonics, it is inferred that over the past 250 million years North America has moved toward the

- (1) northwest
- (2) southwest
- (3) southeast
- (4) northeast

20 1

21. According to available fossil evidence, which set of events is listed in the correct order from earliest to most recent?

- (1) extinction of trilobites, appearance of earliest fishes, extinction of dinosaurs
- (2) appearance of first corals, appearance of earliest insects, abundant reptiles
- (3) appearance of dinosaurs, appearance of earliest amphibians, appearance of earliest grasses
- (4) abundant eurypterids, appearance of earliest birds, appearance of first coral reefs

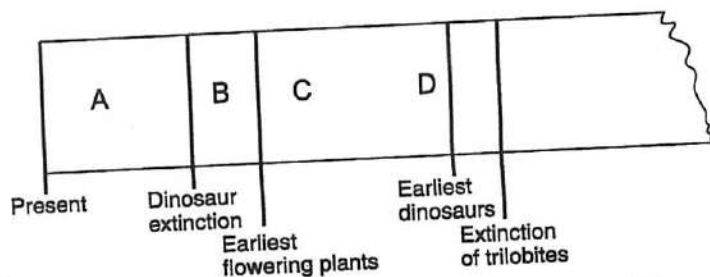
21 2

22. Which group of organisms is inferred to have existed for the least amount of time in geologic history?

- (1) trilobites
- (2) dinosaurs
- (3) eurypterids
- (4) placoderm fish

22 4

23. The diagram below is a portion of a geologic time line. Letters A through D represent the time intervals between the labeled events, as estimated by some scientists.



a) Fossil evidence indicates that the earliest birds developed during which time interval?

(1) A

(2) B

(3) C

(4) D

23 a) 3

b) Earliest mammals developed during which time interval?

(1) A

(2) B

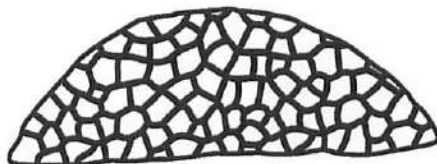
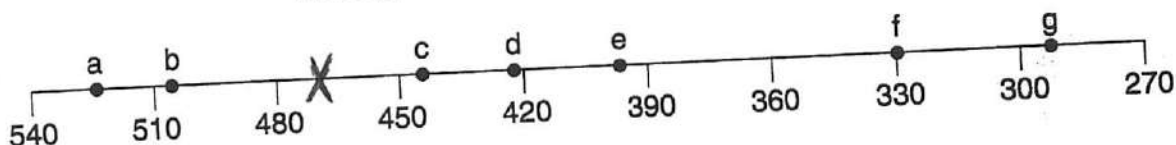
(3) C

(4) D

23 b) 4

Base your answers to questions 24 through 28 on the geologic time line shown below.

**Geologic Time Line** (millions of years ago)



24. Place an X on the geologic time line, so that the center of the X shows the time that the coral index fossil Lichenaria shown above existed on Earth.

25. Letter a indicates a specific time during which geologic period? Cambrian Period

26. Identify the mountain building event (orogeny) that was occurring in eastern North America at the time represented by letter g.

The Alleghenian Orogeny

27. Identify one letter that indicates a time for which there is no rock record in New York State.

Letter f and/or g

28. Name a brachiopod that existed during the time indicated by letter d.

Eospirifer