1. Most of the surface bedrock in New York State south of latitude 43° N. and west of longitude 75° W. was formed during which period?
   1) Silurian  2) Devonian  3) Cambrian  4) Ordovician

2. A person knows the solar time on the Prime Meridian and the local solar time. What determination can be made?
   1) the date  2) the altitude of Polaris  3) the longitude at which the person is located
   4) the latitude at which the person is located

3. At which latitude will Polaris be overhead?
   1) 0°  2) 23 1/2°N.  3) 90° S.  4) 90° N.

4. Cities located on the same meridian (longitude) must have the same
   1) altitude  2) latitude  3) length of daylight  4) solar time

5. The location of Slide Mountain is:
   1) 74° 25’ N, 42° W  2) 42° N, 74° W  3) 42° N, 74° 25’ W  4) 42° 25’ N, 74° 45’ W

6. What is the difference in mean solar time between
   30° N 75° W and 30° N 90° W?
   1) 1 hour  2) 2 hours  3) 3 hours  4) 6 hours

7. What is the difference in mean solar time between 45°S 75°E and 45°S 30°E?
   1) 1 hour  2) 2 hours  3) 3 hours  4) 4 hours

8. As a ship crosses the Prime Meridian, the altitude of Polaris measured from the ship is 50°. What is the ship's location?
   1) 0° latitude 50° east longitude  2) 0° latitude 50° west longitude
   3) 50° north latitude 0° longitude  4) 50° south latitude 0° longitude

9. At which latitude and longitude in New York State would a salt mine in Silurian-age bedrock most likely be located?
   1) 41° N 72° W  2) 43° N 77° W  3) 44° N 74° W  4) 44° N 76° W

10. Base your answer to the following question on the map below, which shows the latitude and longitude of five observers, A, B, C, D, and E, on Earth.

Which two observers would be experiencing the same apparent solar time?
   1) A and C  2) B and C  3) B and E  4) D and E
11. Base your answer to the following question on the world map below. Letters A through D represent locations on Earth's surface.

At which location could an observer not see Polaris in the night sky at any time during the year?

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

12. The approximate latitude of Utica, New York, is

1) 43°05' N  2) 43°05' S  3) 75°15' E  4) 75°15' W

13. When the time of day for a certain ship at sea is 12 noon, the time of day at the Prime Meridian (0° longitude) is 5 p.m. What is the ship's longitude?

1) 45° W  2) 45° E  3) 75° W  4) 75° E

14. When the time of day for a certain ship at sea is 2 p.m., the time of day at the Prime Meridian is 5 p.m. What is the ship's longitude?

1) 30° W  2) 30° E  3) 45° E  4) 45° W

\[
\begin{align*}
\text{West earlier} & \quad \frac{3\text{hr} \times 15^\circ}{\text{hr}} = 45^\circ \text{ west} \\
\text{5hr earlier (westward)} & \quad \frac{5\text{hr} \times 15^\circ}{\text{hr}} = 75^\circ \text{ W}
\end{align*}
\]