

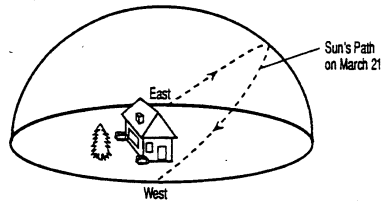
Earth Motions Review #3

- The Sun has just risen in New York and the azimuth of sunrise is determined to be southeast. What direction would an observer need to look to see her shadow at this time?

(1) west	(3) northwest
(2) southeast	(4) northeast

- According to the diagram, which side of the house will cast a shadow when the Sun is on the highest point of its arc path?

- | |
|-----------|
| (1) north |
| (2) east |
| (3) south |
| (4) west |



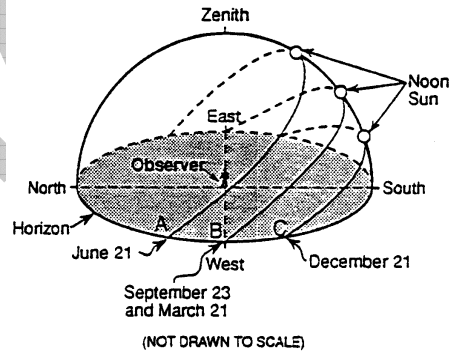
- At which latitude is the Sun directly overhead on certain days of the year?

- | | |
|-------------|-------------|
| (1) 23.5° N | (3) 66.5° N |
| (2) 42° N | (4) 90° N |

Base your answers to questions 4 and 6 on the diagram below which represents the apparent daily path of the Sun across the sky in the Northern Hemisphere on the dates indicated.

- At noon on which date would the observer cast the shortest shadow?

(1) June 21	(3) September 23
(2) March 21	(4) December 21



- What is the azimuth of sunrise on December 21st ?

- | | |
|----------|---------------|
| (1) east | (3) southeast |
| (2) west | (4) southwest |

- The apparent daily paths of the Sun shown on the diagram are a result of

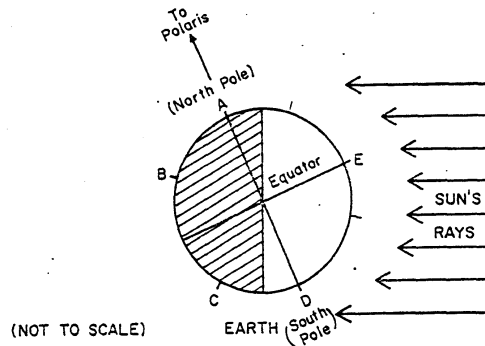
(1) Earth's rotation	(3) Earth's revolution
(2) Earth's tilt	(4) Earth's distance from the Sun

Base your answers to questions 7 and 8 on your knowledge of Earth Science and on the diagram below which represents the Earth, the Sun's rays and the direction to Polaris. Positions A, B, C, D, and E represent locations where wooden stakes have been placed in the Earth at right angles to the surface.

- During which month is the Earth in the position shown in the diagram?

(1) March
(2) September
(3) June
(4) December
- At which location would an observer on the surface of the Earth not be able to observe the Sun at any time during the next 24 hours?

(1) A	(3) D
(2) B	(4) E



ROMANO

9. In New York State, the number of hours of daylight each day increases continuously from
- | | |
|-----------------------------|----------------------------|
| 1 March 1 to May 1 | 3 December 1 to February 1 |
| 3 September 1 to November 1 | 4 June 1 to August 1 |

Use the diagram below to answer questions 10-18.

10. What is the altitude of star 1? _____
11. What is the azimuth of star 1? _____
12. What is the azimuth of sunrise? _____
13. What time of day is represented by this diagram? _____
14. If the total degrees of arc for this day is 210 degrees, how many daylight hours would be experienced on this day? _____
15. What is the altitude Sun at position 2? _____
16. What direction would the elephant's shadow point at the time shown in the diagram? _____
17. If the Sun was located at position X, what time of day would it be? _____
18. What would the azimuth of the Sun be if it was located at position X? _____

