

THE ROYAL ASTRONOMICAL SOCIETY OF CANADA

1991 SOLAR ECLIPSE EXPEDITION

SOLAR ECLIPSE QUIZ

1. The term "eclipse" of the sun is actually a complete misnomer for the event that we will see tomorrow. The proper name of the phenomenon is a(n) _____ of the sun.
2. The English translation of the Latin word that is our name for the sun's atmosphere that we see during the total phase of a solar eclipse is _____.
3. Annular eclipses are more frequent than total eclipses. True or false?

4. During solar eclipses, the moon's umbral shadow moves across the earth in a west to east direction
 - (a) always _____
 - (b) usually _____
 - (c) sometimes _____
 - (d) rarely _____
 - (e) never _____
5. The last total solar eclipse visible in Mexico occurred on what date (month and year)? _____
6. At this eclipse, the moon's shadow will move across the Baja Peninsula at what velocity (within 20%)? _____ per second.
7. The (fictional) residents of how many other planets in the solar system might see a total eclipse of the sun from the surfaces (or visible cloud tops in the case of gas giant planets) of their home planets?

8. It is possible for two successive solar eclipses to be entirely total. True or false? _____
9. The theoretical maximum duration of totality for any total solar eclipse is _____ (minutes and seconds, within 10%).
10. The theoretical maximum duration of annularity for any annular solar eclipse is _____ (minutes and seconds, within 10%).
11. Which of the following statements is (are) true? Einstein's theories of relativity provide that, at a solar eclipse,
 - (a) stars near the sun appear to be deflected toward the sun, _____
 - (b) stars near the sun appear to be deflected away from the sun, _____
 - (c) your telescope appears to be deflected toward your neighbour's telescope, _____
 - (d) your can of cerveza (beer) appears to fall over _____
12. Since 1989, this Expedition has had
 - (a) One _____
 - (b) Two _____
 - (c) Three _____
 - (d) Fifty-five _____

price increases.

13. The last total eclipse in the Saros to which tomorrow's event belongs occurred on what date (month and year)? _____
14. At that eclipse (referred to in question 13), observers who experienced the longest duration of totality were in the moon's umbral shadow for how long (within 10%)? _____
15. Earlier in the history of the solar system, total solar eclipses were
- (a) less frequent than _____
 - (b) of the same frequency as _____
 - (c) more frequent than _____
- they are now.
16. Which American singer made reference to a particular solar eclipse in a hit song from the 1970s? _____
17. Which Greek singer used as a song title the umbra in which we will be enveloped tomorrow? _____
18. If tomorrow you see shadow bands for 8 minutes in succession without a break,
- (a) it will be a very unusual observation, _____
 - (b) you will have imbibed too many margueritas tonight, _____
 - (c) you will have missed the 3:00 a.m. wake-up call and will be observing the eclipse from just outside the path of totality at Puerto Vallarta, _____
 - (d) quite possibly all of the above. _____
19. Historical records show that ancient solar eclipses were visible at locations further east than modern calculations originally indicated. This determination established the existence of what phenomenon associated with the Earth?

20. The given name of the astronomer who first described the last several points of the sun's photosphere that blaze through the valleys on the moon's limb just before totality was _____.
21. The next total solar eclipse visible from Canada will take place in what year (within one year)? _____
22. Total eclipses are visible from any one place on the earth's surface (on average) once every how many years (within 10%)? _____
23. Total eclipses are visible from some place on the earth's surface (on average) how often (within 10%)? _____
24. Tomorrow the solar corona will shine in which constellation? _____
25. This eclipse takes place at which node (ascending or descending)?

FOR EXTRA CREDIT ANSWER THE FOLLOWING QUESTION:

26. Solar eclipse expeditions usher in the age of
- (a) Aquarius _____
 - (b) Poverty _____