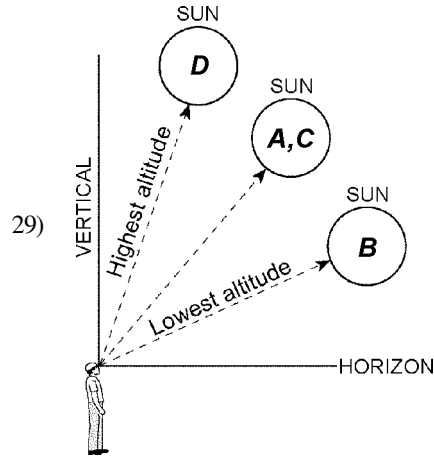
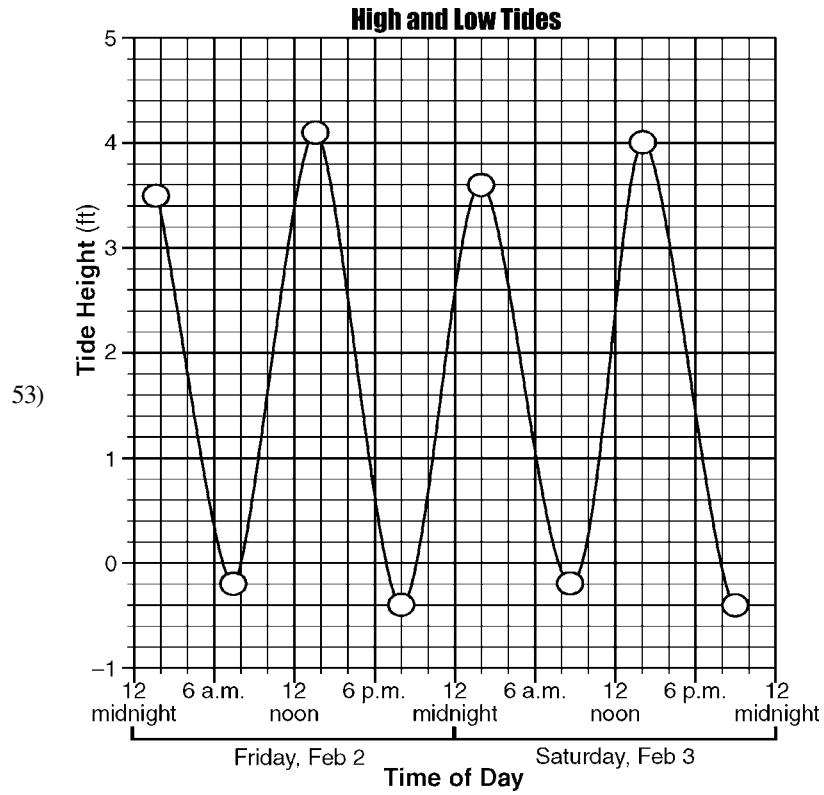


- 1) D 2) A 3) D 4) A 5) D
 6) B 7) C 8) D 9) C 10) B
 11) A 12) D 13) B 14) A 15) A
 16) B 17) A 18) C 19) B 20) D
 21) B 22) C 23) D 24) A 25) D
 26) B 27) A
 28) D OR June 21

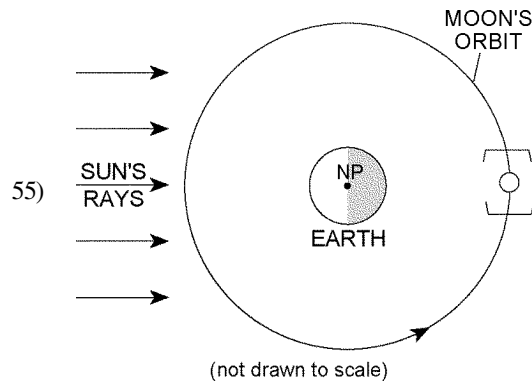


- 30) C 31) A 32) A 33) B 34) C
 35) A 36) C 37) C 38) B 39) D
 40) B 41) C 42) A 43) D 44) C
 45) A
 46) SAMPLE ANSWERS: the rotation of Earth OR Earth is spinning on its axis.
 47) 29 d to 30 d
 48) SAMPLE ANSWERS: The gravitational attraction between the Moon and Earth is least when they are farthest apart. OR The force of gravity is less. OR Gravitational attraction is greater when the Moon is closer to Earth.
 49) SAMPLE ANSWERS: The Moon's period of rotation and period of revolution are equal. OR The Moon rotates only once per revolution. OR The Moon rotates and revolves once in 27.3 days. OR The Moon rotates and revolves at the same rate.
 50) SAMPLE ANSWERS: The Moons period of rotation equals its period of revolution. OR The Moon rotates and revolves once in 27.3 days. OR The Moon rotates and revolves at the same rate.
 51) SAMPLE ANSWERS: The Moon is closer to Earth so gravity is greater. OR The Sun is much farther away.
 52) Any time from 6:33 p.m. to 6:45 p.m. OR any military time from 18:33 to 18:45



53)

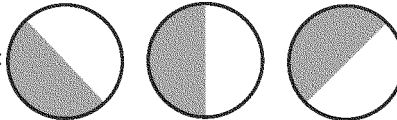
54) Any time from 2 a.m. to 4 a.m.



55)

56) March 3 OR March 4

57) SAMPLE ANSWERS:



58) 42°

59) Position number 1

60) Position number 3

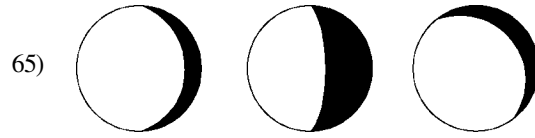
61) 4 OR 8

62)

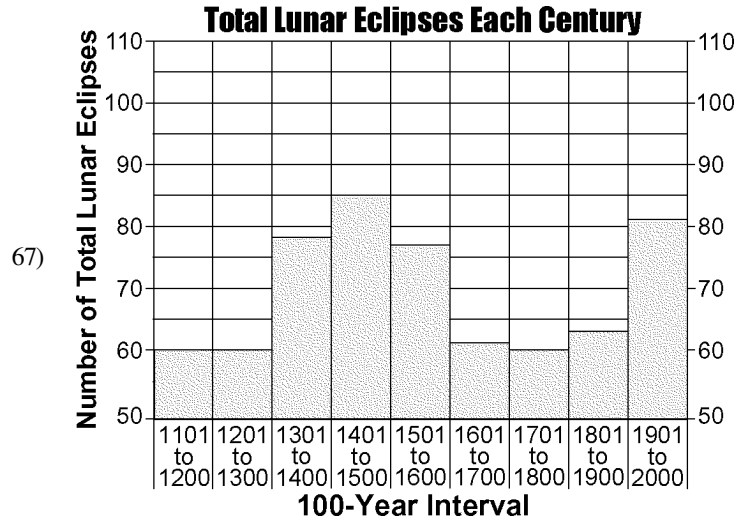


63) 29 d to 30 d

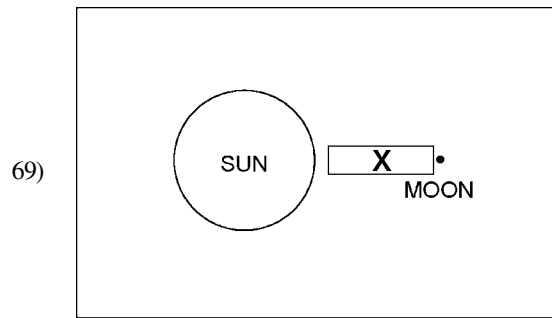
64) 8



66) position 6



68) SAMPLE ANSWERS: As the number of partial lunar eclipses increases, the number of total lunar eclipses decreases. OR The more partial lunar eclipses there are, the fewer total lunar eclipses there are. OR When the number of partial eclipses is high, the number of total eclipses is low.

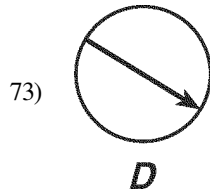
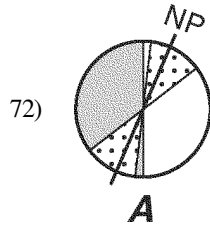


(not drawn to scale)

70)

Season	Earth's Position
spring	A
summer	C
fall	E
winter	G

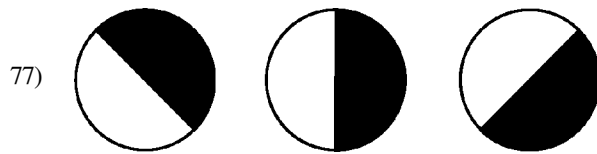
71) 88 to 94 d



74) 88 d to 94 d

75) SAMPLE ANSWERS: Earth's distance to the Sun is increasing. OR Earth is getting farther from the Sun. OR Earth is approaching aphelion.

76) SAMPLE ANSWERS: The nighttime side of Earth at location A faces a different region of space than at location C. OR Earth is on different sides of the Sun in its orbit at locations A and C. OR Earth revolves around the Sun, so locations A and C have different views of the night sky.



78) 6 p.m.

79) SAMPLE ANSWERS: rotation OR Earth spinning on its axis

80)

Star	Luminosity	Temperature (K)	Classification
<i>Merak</i>			
<i>Dubhe</i>			giant

81) *Polaris* or North Star

82) 45D

83) Milky Way

