CH 3

Review Questions 1-5 (DUE 1/11)

1. Which lunar phases would be visible in the sky at dawn? At midnight?

2. If you looked back at Earth from the moon, what phase would Earth have when the moon was full? New? A first-quarter moon? A waxing crescent?

3. If a planet has a moon, must that moon go through the same phases that Earth's moon displays?

4. Could a solar-powered spacecraft generate any electricity while passing through Earth's umbral shadow? Through Earth's penumbral shadow?

5. If a lunar eclipse occurred at midnight, where in the sky would you look to see it?

Problems 1, 3, 5-6, 8 (DUE 1/11)

1. Identify the phases of the moon if on March 20 the moon is located at the point on the ecliptic called (a) the vernal equinox, (b) the autumnal equinox, (c) the summer solstice, (d) the winter solstice.

3. About how many days must elapse between first-quarter moon and third-quarter moon?

5. How many times larger than the moon is the diameter of Earth's umbral shadow at the moon's distance? (*Hint:* See the photo in Figure 3-3.)

6. Use the small-angle formula to calculate the angular diameter of Earth as seen from the moon.

8. If a solar eclipse occurs on October 3: (a) Why can't there be a lunar eclipse on October 13? (b) Why can't there be a solar eclipse on December 28?