***An Introduction to Astronomy, 9e* (Arny)**

**Chapter 1 The Cycles of the Sky**

1) Directly above Earth's equator lies the \_\_\_\_\_\_\_\_ in the sky.

A) North Celestial Pole

B) South Celestial Pole

C) Celestial equator

D) ecliptic

Answer: C

Difficulty: 1 Easy

Section: 01.01

Topic: Locating Objects in the Sky

Bloom's: 1. Remember

Gradable: automatic

Subtopic: Celestial Sphere Model

2) All celestial objects rise in the east and set in the west because

A) Earth is rotating from east to west.

B) Earth is rotating from west to east.

C) Earth is orbiting around the Sun from east to west.

D) the celestial sphere is rotating from east to west.

Answer: B

Difficulty: 1 Easy

Section: 01.01

Topic: Locating Objects in the Sky; Astronomical Cycles

Bloom's: 1. Remember

Gradable: automatic

Subtopic: Celestial Sphere Model; Diurnal and Annual Motion

3) What is the ecliptic?

A) the line of the solar and lunar eclipses on the celestial sphere

B) the extension of Earth's path on the celestial sphere

C) the elliptical shape of Earth's orbit around the Sun

D) All of these choices are correct.

Answer: B

Difficulty: 2 Medium

Section: 01.01

Topic: Locating Objects in the Sky

Bloom's: 1. Remember

Gradable: automatic

Subtopic: The Ecliptic

4) Which of the following statements describes the ecliptic?

A) the path of the Moon on the celestial sphere

B) the extension of Earth's equator on the celestial sphere

C) the extension of Earth's path on the celestial sphere

D) the apparent path of the Sun across the celestial sphere

E) The extension of Earth's equator on the celestial sphere and the apparent path of the Sun across the celestial sphere are correct.

Answer: E

Difficulty: 2 Medium

Section: 01.01

Topic: Locating Objects in the Sky

Bloom's: 1. Remember

Gradable: automatic

Subtopic: The Ecliptic

5) Suppose that Earth's spin would suddenly reverse direction, but the direction of Earth's motion around the Sun was preserved. Which of the following changes would you expect to observe?

A) The Sun would rise in the west and set in the east.

B) The stars would rise in the west and set in the east.

C) The planets would rise in the west and set in the east.

D) All of these would be observed.

E) None of these choices is correct.

Answer: D

Difficulty: 2 Medium

Section: 01.01

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Diurnal and Annual Motion

6) For someone in the Northern Hemisphere stars rise in the east and set in the west. For someone in the Southern Hemisphere

A) the situation is the same—stars also rise in the east and set in the west.

B) the opposite is true—stars rise in the west and set in the east.

Answer: A

Difficulty: 1 Easy

Section: 01.01

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Diurnal and Annual Motion

7) The motion of the Sun relative to the stars is from \_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_.

A) east; west

B) west; east

Answer: B

Difficulty: 1 Easy

Section: 01.01

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Diurnal and Annual Motion

8) Which of the following statements regarding the motion of objects on the celestial sphere is true?

A) The Sun moves along the Celestial Equator.

B) The Moon moves along the Celestial Equator.

C) The stars move along the zodiac.

D) The stars move parallel to the Celestial Equator.

Answer: D

Difficulty: 2 Medium

Section: 01.01

Topic: Locating Objects in the Sky

Bloom's: 1. Remember

Gradable: automatic

Subtopic: Celestial Sphere Model

9) How much time is there between when a star rises and when it sets?

A) less than twelve hours

B) about twelve hours

C) more than twelve hours

D) It depends on the star.

Answer: D

Difficulty: 1 Easy

Section: 01.01

Topic: Locating Objects in the Sky; Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Celestial Sphere Model; Diurnal and Annual Motion

10) The zodiac is tilted by 23.5 degrees relative to the Celestial Equator.

Answer: TRUE

Difficulty: 2 Medium

Section: 01.01

Topic: Locating Objects in the Sky

Bloom's: 1. Remember

Gradable: automatic

Subtopic: Celestial Sphere Model

11) There are constellations that are not visible for observers living in North America.

Answer: TRUE

Difficulty: 2 Medium

Section: 01.01

Topic: Locating Objects in the Sky

Bloom's: 1. Remember

Gradable: automatic

Subtopic: Celestial Sphere Model

12) Although all known stars appear to rise from the eastern horizon, astronomers might someday discover a star that will rise from the western horizon.

Answer: FALSE

Difficulty: 1 Easy

Section: 01.01

Topic: Locating Objects in the Sky

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Celestial Sphere Model

13) What is the celestial sphere?

A) an observatory dome

B) the Sun

C) Earth

D) the imaginary sphere of the sky, on which stars lie

Answer: D

Difficulty: 1 Easy

Section: 01.01

Topic: Locating Objects in the Sky

Bloom's: 1. Remember

Gradable: automatic

Subtopic: Celestial Sphere Model

14) For which of the following is the celestial sphere an accurate representation of reality?

A) the distance to the stars

B) the spherical bubble that surrounds Earth

C) the view of the stars from Earth

D) the motion of the Sun around Earth

E) the motion of the planets around Earth

Answer: C

Difficulty: 2 Medium

Section: 01.01

Topic: Locating Objects in the Sky

Bloom's: 1. Remember

Gradable: automatic

Subtopic: Celestial Sphere Model

15) Constellations are \_\_\_\_\_\_\_\_.

A) fixed patterns of stars on the celestial sphere

B) groups of stars that are close to each other in space

C) stars that neither rise nor set

D) stars representing the path of the Sun through the sky

E) animals that look like groupings of stars

Answer: A

Difficulty: 2 Medium

Section: 01.01

Topic: Locating Objects in the Sky

Bloom's: 1. Remember

Gradable: automatic

Subtopic: Constellations

16) What do we call a specific pattern of stars in the sky, often named for an animal?

A) a cluster

B) a star animal

C) a constellation

D) the ecliptic

Answer: C

Difficulty: 1 Easy

Section: 01.01

Topic: Locating Objects in the Sky

Bloom's: 1. Remember

Gradable: automatic

Subtopic: Constellations

17) Stars in a constellation \_\_\_\_\_\_\_\_.

A) are close to one another in space

B) all formed at about the same time

C) neither rise nor set

D) are in the same direction in the sky

E) None of these choices is correct.

Answer: D

Difficulty: 2 Medium

Section: 01.01

Topic: Locating Objects in the Sky

Bloom's: 1. Remember

Gradable: automatic

Subtopic: Constellations

18) Constellations rise in the \_\_\_\_\_\_\_\_ and set in the \_\_\_\_\_\_\_\_.

A) east; west

B) west; east

C) morning; evening

D) evening; morning

E) Constellations neither rise nor set.

Answer: A

Difficulty: 1 Easy

Section: 01.01

Topic: Locating Objects in the Sky

Bloom's: 1. Remember

Gradable: automatic

Subtopic: Constellations

19) Over the course of a single night, stars move overhead due to \_\_\_\_\_\_\_\_.

A) their motion around Earth

B) the rotation of Earth on its axis

C) the motion of the Sun around the galaxy

D) the rotation of the celestial sphere

E) the tilt of Earth's axis

Answer: B

Difficulty: 1 Easy

Section: 01.01

Topic: Astronomical Cycles

Bloom's: 1. Remember

Gradable: automatic

Subtopic: Diurnal and Annual Motion

20) The celestial equator is always located \_\_\_\_\_\_\_\_.

A) running north to south, and directly overhead

B) in the northern sky, at an altitude equal to your latitude

C) running due east to due west, 90 degrees from the north Celestial Pole

D) running east to west, between the ecliptic and the North Celestial Pole

E) None of these choices is correct.

Answer: C

Difficulty: 2 Medium

Section: 01.01

Topic: Locating Objects in the Sky

Bloom's: 1. Remember

Gradable: automatic

Subtopic: Celestial Coordinate Systems, Celestial Sphere Model

21) What is the Celestial Equator?

A) a band of constellations through which the planets and Sun appear to move

B) the line that the Sun traces across the celestial sphere

C) an imaginary line in the sky, directly above Earth's equator

D) the cycle of lunar phases

Answer: C

Difficulty: 2 Medium

Section: 01.01

Topic: Locating Objects in the Sky

Bloom's: 1. Remember

Gradable: automatic

Subtopic: Celestial Coordinate Systems, Celestial Sphere Model

22) The North Celestial Pole is located \_\_\_\_\_\_\_\_.

A) directly above Earth's equator

B) directly overhead

C) at the geographic North Pole

D) directly above the geographic North Pole

E) at the center of the celestial sphere

Answer: D

Difficulty: 2 Medium

Section: 01.01

Topic: Locating Objects in the Sky

Bloom's: 1. Remember

Gradable: automatic

Subtopic: Celestial Coordinate Systems, Celestial Sphere Model

23) The star nearest the North Celestial Pole is \_\_\_\_\_\_\_\_.

A) Vega

B) Thuban

C) Denebola

D) Polaris

E) Mizar

Answer: D

Difficulty: 1 Easy

Section: 01.01

Topic: Locating Objects in the Sky

Bloom's: 1. Remember

Gradable: automatic

Subtopic: Celestial Coordinate Systems, Celestial Sphere Model

24) Circumpolar stars are stars that \_\_\_\_\_\_\_\_.

A) rise in the east and set in the west

B) neither rise nor set

C) are pointed to by the celestial poles

D) follow circular orbits around the celestial poles

E) can only be seen from the poles of Earth

Answer: B

Difficulty: 1 Easy

Section: 01.01

Topic: Astronomical Cycles

Bloom's: 1. Remember

Gradable: automatic

Subtopic: Diurnal and Annual Motion

25) A constellation directly overhead at midnight in June will be \_\_\_\_\_\_\_\_ at midnight in December.

A) directly overhead

B) on the eastern horizon

C) on the western horizon

D) below the horizon

E) None of these choices is correct.

Answer: D

Difficulty: 1 Easy

Section: 01.01

Topic: Astronomical Cycles

Bloom's: 1. Remember

Gradable: automatic

Subtopic: Diurnal and Annual Motion

26) The change in constellations with the seasons are caused by \_\_\_\_\_\_\_\_.

A) the rotation of Earth

B) the revolution of Earth

C) the precession of Earth's axis

D) the Sun's orbit around the center of the galaxy

E) zodiacal shift

Answer: B

Difficulty: 2 Medium

Section: 01.01

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Diurnal and Annual Motion

27) "Annual motion" refers to changes in the positions of stars in the sky as the result of \_\_\_\_\_\_\_\_.

A) Earth's rotation on its axis

B) Earth's motion as it orbits the Sun

C) the rotation of the celestial sphere around Earth

D) the motion of the Sun around Earth

E) the Sun's orbit around the center of the galaxy

Answer: B

Difficulty: 1 Easy

Section: 01.01

Topic: Astronomical Cycles

Bloom's: 1. Remember

Gradable: automatic

Subtopic: Diurnal and Annual Motion

28) The daily spin of Earth on its axis is called \_\_\_\_\_\_\_\_.

A) revolution

B) precession

C) annualization

D) rotation

E) constellation

Answer: D

Difficulty: 1 Easy

Section: 01.01

Topic: Astronomical Cycles

Bloom's: 1. Remember

Gradable: automatic

Subtopic: Diurnal and Annual Motion

29) The annual motion of Earth around the Sun is called \_\_\_\_\_\_\_\_.

A) revolution

B) precession

C) annualization

D) rotation

E) constellation

Answer: A

Difficulty: 1 Easy

Section: 01.01

Topic: Astronomical Cycles

Bloom's: 1. Remember

Gradable: automatic

Subtopic: Diurnal and Annual Motion

30) The star Vega rises today at 6:40 A.M. Tomorrow it will rise at \_\_\_\_\_\_\_\_.

A) 6:44 A.M.

B) 6:40 A.M.

C) 6:36 A.M.

D) 6:32 A.M.

E) 6:44 P.M.

Answer: C

Difficulty: 1 Easy

Section: 01.01

Topic: Astronomical Cycles

Bloom's: 3. Apply

Gradable: automatic

Subtopic: Diurnal and Annual Motion

31) The star Aldebaran is seen today just on the western horizon at 9:38 P.M. Tomorrow night at 9:38 P.M., Aldebaran will be \_\_\_\_\_\_\_\_.

A) below the horizon

B) on the horizon

C) above the horizon

D) on the eastern horizon

E) None of these choices is correct.

Answer: A

Difficulty: 1 Easy

Section: 01.01

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Diurnal and Annual Motion

32) The "zodiac" is \_\_\_\_\_\_\_\_.

A) a belt-shaped region of the sky surrounding the ecliptic

B) a pink-colored glow above the horizon due to scattered sunlight

C) a band of stars falling along the Celestial Equator

D) a group of constellations through which the Sun passes on the equinoxes

E) a series of astrological signs

Answer: A

Difficulty: 1 Easy

Section: 01.01

Topic: Astronomical Cycles

Bloom's: 1. Remember

Gradable: automatic

Subtopic: Diurnal and Annual Motion

33) What do we call the line that the Sun traces across the celestial sphere?

A) the Celestial Equator

B) the Mason-Dixon Line

C) the extension of Earth's equator on the celestial sphere

D) the ecliptic

Answer: D

Difficulty: 2 Medium

Section: 01.01

Topic: Locating Objects in the Sky

Bloom's: 1. Remember

Gradable: automatic

Subtopic: Celestial Coordinate Systems, Celestial Sphere Model

34) What causes the change of the constellations with the seasons?

A) It is caused by Earth's motion around the Sun.

B) It is caused as the constellations move amongst themselves.

C) This is merely an illusion caused as the length of the day changes.

D) the cycle of lunar phases

Answer: A

Difficulty: 1 Easy

Section: 01.01

Topic: Locating Objects in the Sky; Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: The Ecliptic; Seasons, Diurnal and Annual Motion

35) In which season is Earth farthest from the Sun?

A) when it is winter in North America

B) when it is summer in North America

C) when it is autumn in North America

D) when it is spring in North America

Answer: B

Difficulty: 2 Medium

Section: 01.02

Topic: Astronomical Cycles

Bloom's: 1. Remember

Gradable: automatic

Subtopic: Seasons, Diurnal and Annual Motion

36) The equinox is the time when

A) the number of daylight hours is longest in the Northern Hemisphere.

B) the number of daylight hours is shortest in the Northern Hemisphere.

C) the number of daylight hours equals the number of nighttime hours everywhere on Earth.

D) all the nights are equally long throughout the month.

Answer: C

Difficulty: 1 Easy

Section: 01.02

Topic: Astronomical Cycles

Bloom's: 1. Remember

Gradable: automatic

Subtopic: Seasons, Diurnal and Annual Motion, Solstices and Equinoxes

37) On what date/s does the Sun rise exactly due east and set exactly due west?

A) June 21 and December 21

B) March 21 and September 22

C) only on March 21

D) only on June 21

Answer: B

Difficulty: 1 Easy

Section: 01.02

Topic: Astronomical Cycles

Bloom's: 1. Remember

Gradable: automatic

Subtopic: Diurnal and Annual Motion, Solstices and Equinoxes

38) In the Northern Hemisphere, between what dates does the location of the Sun's rising and setting shift a little farther south each day?

A) from March 20 until September 22

B) from June 21 until December 21

C) from September 22 until March 20

D) from December 21 until June 21

Answer: B

Difficulty: 2 Medium

Section: 01.02

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Seasons, Diurnal and Annual Motion, Solstices and Equinoxes

39) Why do the constellations that are visible in the sky at night change with the seasons?

A) because the celestial sphere revolves around Earth

B) because Earth is a sphere

C) because Earth rotates about an axis

D) because Earth revolves around the Sun

Answer: D

Difficulty: 1 Easy

Section: 01.02

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Diurnal and Annual Motion

40) What causes the seasons?

A) the tilt of the celestial sphere with respect to the equator

B) Earth's distance from the Sun varies throughout the year.

C) The ecliptic is tilted with respect to the Celestial Equator.

D) the motion of the equinoxes

E) None of these choices is correct.

Answer: C

Difficulty: 1 Easy

Section: 01.02

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Seasons

41) What causes the seasons?

A) the changing distance between Earth and the Sun

B) the tilt of Earth's spin axis relative to Earth's orbit

C) Earth's spin axis is tilted from the poles of the celestial sphere

D) the elliptical shape of Earth's equator

Answer: B

Difficulty: 1 Easy

Section: 01.02

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Seasons

42) Which of the following is true during the equinoxes?

A) The Sun is on the ecliptic.

B) The Sun is on the Celestial Equator.

C) The Sun rises due east and sets due west.

D) All of these choices are correct.

Answer: D

Difficulty: 2 Medium

Section: 01.02

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Solstices and Equinoxes

43) During the June solstice, the Sun rises in the southeast horizon in Earth's Northern Hemisphere.

Answer: FALSE

Difficulty: 2 Medium

Section: 01.02

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Solstices and Equinoxes, Diurnal and Annual Motion

44) During the December solstice, the Sun rises in the southeast horizon in Earth's Northern Hemisphere and in the northeast horizon in Earth's Southern Hemisphere.

Answer: FALSE

Difficulty: 2 Medium

Section: 01.02

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Solstices and Equinoxes, Diurnal and Annual Motion

45) Temperatures in New York City are warmer in July than in January because Earth is closer to the Sun in July than in January.

Answer: FALSE

Difficulty: 1 Easy

Section: 01.02

Topic: Astronomical Cycles

Bloom's: 1. Remember

Gradable: automatic

Subtopic: Seasons

46) The Northern Hemisphere is warmer in its summer months because \_\_\_\_\_\_\_\_.

A) Earth is closer to the Sun during this time

B) the Sun is in the sky for a longer period of time

C) the Sun is more directly overhead during this time

D) the Sun is in the sky for a longer period of time and the Sun is more directly overhead during this time

E) Earth is closer to the Sun during this time and the Sun is in the sky for a longer period of time

Answer: D

Difficulty: 1 Easy

Section: 01.02

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Seasons

47) Earth's axis is tilted by \_\_\_\_\_\_\_\_ degrees relative to the Celestial Equator.

A) 32.5

B) 11

C) 23.5

D) 25

E) 66.5

Answer: C

Difficulty: 1 Easy

Section: 01.02

Topic: Astronomical Cycles

Bloom's: 1. Remember

Gradable: automatic

Subtopic: Seasons

48) The ecliptic is tilted by \_\_\_\_\_\_\_\_ degrees relative to the Celestial Equator.

A) 32.5

B) 11

C) 23.5

D) 25

E) 66.5

Answer: C

Difficulty: 1 Easy

Section: 01.02

Topic: Locating Objects in the Sky; Astronomical Cycles

Bloom's: 1. Remember

Gradable: automatic

Subtopic: The Ecliptic; Seasons

49) If Earth's axis was not tipped relative to the Celestial Equator, \_\_\_\_\_\_\_\_.

A) Earth would experience winter all year

B) Earth would experience summer all year

C) Earth would not experience seasons

D) there would be an eclipse every month

E) there would never be an eclipse

Answer: C

Difficulty: 1 Easy

Section: 01.02

Topic: Astronomical Cycles

Bloom's: 1. Remember

Gradable: automatic

Subtopic: Seasons

50) During the summer months in the Southern Hemisphere, \_\_\_\_\_\_\_\_.

A) Earth is closer to the Sun

B) the Sun is in the sky for a longer period of time

C) the Sun is more directly overhead during this time

D) the Northern Hemisphere experiences winter weather

E) All of these choices are correct.

Answer: E

Difficulty: 1 Easy

Section: 01.02

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Seasons

51) In the Northern Hemisphere, winter shadows are longer because \_\_\_\_\_\_\_\_.

A) the Sun is in the sky for a longer period of time

B) the Sun moves through the sky closer to the horizon

C) the Sun moves through the sky farther from the horizon

D) the Sun is in the sky for a shorter period of time

E) None of these choices is correct.

Answer: B

Difficulty: 2 Medium

Section: 01.02

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Seasons

52) Regions of Earth where the Sun is more directly overhead will experience \_\_\_\_\_\_\_\_.

A) colder weather

B) warmer weather

C) longer nights

D) more eclipses

E) None of these choices is correct.

Answer: B

Difficulty: 2 Medium

Section: 01.02

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Seasons

53) On the vernal equinox, the Sun rises \_\_\_\_\_\_\_\_.

A) north of east

B) south of east

C) due east

D) south of west

E) due west

Answer: C

Difficulty: 2 Medium

Section: 01.02

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Solstices and Equinoxes

54) On the autumnal equinox, the Sun sets \_\_\_\_\_\_\_\_.

A) north of east

B) south of east

C) due east

D) south of west

E) due west

Answer: E

Difficulty: 2 Medium

Section: 01.02

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Solstices and Equinoxes

55) At solar noon on the summer solstice, the Sun is located \_\_\_\_\_\_\_\_.

A) 23.5 degrees above the Celestial Equator

B) 23.5 degrees below the Celestial Equator

C) 23.5 degrees above the ecliptic

D) 23.5 degrees below the ecliptic

E) 23.5 degrees above the horizon

Answer: A

Difficulty: 2 Medium

Section: 01.02

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Solstices and Equinoxes

56) At solar noon on the winter solstice, the Sun is located \_\_\_\_\_\_\_\_.

A) 23.5 degrees above the Celestial Equator

B) 23.5 degrees below the Celestial Equator

C) 23.5 degrees above the ecliptic

D) 23.5 degrees below the ecliptic

E) 23.5 degrees above the horizon

Answer: B

Difficulty: 2 Medium

Section: 01.02

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Solstices and Equinoxes

57) Ypsilanti, Michigan, is located at latitude 42 degrees North. What is the altitude (above the southern horizon) of the Sun at solar noon on the summer solstice?

A) 71.5 degrees

B) 108.5 degrees

C) 42 degrees

D) 132 degrees

E) 23.5 degrees

Answer: A

Difficulty: 3 Hard

Section: 01.02

Topic: Astronomical Cycles

Bloom's: 3. Apply

Gradable: automatic

Subtopic: Solstices and Equinoxes

58) At the North Pole, the summer solstice Sun \_\_\_\_\_\_\_\_.

A) circles the pole along the horizon

B) circles the pole 23.5 degrees above the horizon

C) circles the pole 23.5 degrees below the horizon

D) is directly overhead for the entire day

E) rises north of east and sets north of west

Answer: B

Difficulty: 1 Easy

Section: 01.02

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Solstices and Equinoxes

59) At the North Pole, the vernal equinox Sun \_\_\_\_\_\_\_\_.

A) circles the pole along the horizon

B) circles the pole 23.5 degrees above the horizon

C) circles the pole 23.5 degrees below the horizon

D) is directly overhead for the entire day

E) rises north of east and sets north of west

Answer: A

Difficulty: 1 Easy

Section: 01.02

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Solstices and Equinoxes

60) At the North Pole, the winter solstice Sun \_\_\_\_\_\_\_\_.

A) circles the pole along the horizon

B) circles the pole 23.5 degrees above the horizon

C) circles the pole 23.5 degrees below the horizon

D) is directly overhead for the entire day

E) rises north of east and sets north of west

Answer: C

Difficulty: 1 Easy

Section: 01.02

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Solstices and Equinoxes

61) After a full moon, about how long is it until the next new moon?

A) a month

B) 2 weeks

C) a week

D) 6 hours

Answer: B

Difficulty: 1 Easy

Section: 01.03

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Phases of the Moon

62) If there is a full moon visible from Paris one evening, twelve hours later in Australia there will be a \_\_\_\_\_\_\_\_ visible.

A) full moon

B) new moon

C) first quarter moon

D) crescent moon

Answer: A

Difficulty: 1 Easy

Section: 01.03

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Phases of the Moon

63) When the Moon and the Sun lie exactly in the same direction in the sky, what phase of the Moon would you see?

A) full

B) half

C) gibbous

D) crescent

E) new

Answer: E

Difficulty: 1 Easy

Section: 01.03

Topic: Astronomical Cycles

Bloom's: 1. Remember

Gradable: automatic

Subtopic: Phases of the Moon

64) The Full Moon sets at

A) sunrise.

B) sunset.

C) midnight.

D) noon.

Answer: A

Difficulty: 1 Easy

Section: 01.03

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Phases of the Moon

65) Which phase of the Moon sets at noon?

A) full Moon

B) third quarter

C) new Moon

D) waxing crescent

E) None, the Moon always sets at sunrise.

Answer: B

Difficulty: 2 Medium

Section: 01.03

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Phases of the Moon

66) When does the full Moon phase occur?

A) when Earth is between the Sun and the Moon

B) when the Sun is between Earth and the Moon

C) when the Moon is between Earth and the Sun

D) when the Moon and the Sun are on the Celestial equator

Answer: A

Difficulty: 1 Easy

Section: 01.03

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Phases of the Moon

67) When does the new Moon phase occur?

A) when Earth is between the Sun and the Moon

B) when the Sun is between Earth and the Moon

C) when the Moon is between Earth and the Sun

D) when the Sun and the Moon are on the Celestial Equator

Answer: C

Difficulty: 1 Easy

Section: 01.03

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Phases of the Moon

68) Which phase of the moon do you expect to see high in the sky at 6:00 P.M.?

A) the first quarter

B) the new moon

C) the full moon

D) the third quarter

Answer: A

Difficulty: 2 Medium

Section: 01.03

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Phases of the Moon

69) Which phase of the moon do you expect to see rising at dawn?

A) full moon

B) first quarter

C) waning crescent

D) third quarter

Answer: C

Difficulty: 2 Medium

Section: 01.03

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Phases of the Moon

70) If the Moon sets at 10 A.M. today, approximately what time did the Moon set yesterday?

A) 10:04 A.M.

B) 9:56 A.M.

C) 10:50 A.M.

D) 9:10 A.M.

Answer: D

Difficulty: 2 Medium

Section: 01.03

Topic: Astronomical Cycles

Bloom's: 3. Apply

Gradable: automatic

Subtopic: Phases of the Moon

71) During which phase of the moon do you expect to observe a lunar eclipse?

A) full moon

B) new moon

C) first quarter

D) third quarter

E) Lunar eclipses can occur at any phase of the moon.

Answer: A

Difficulty: 1 Easy

Section: 01.03

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Phases of the Moon, Eclipses

72) During which phase of the moon do you expect to observe a solar eclipse?

A) full moon

B) new moon

C) first quarter

D) third quarter

E) Solar eclipses can occur at any phase of the moon.

Answer: B

Difficulty: 1 Easy

Section: 01.03

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Phases of the Moon, Eclipses

73) Solar eclipses can occur during \_\_\_\_\_\_\_\_.

A) the new moon

B) the full moon

C) the waning crescent moon

D) the waxing crescent moon

E) any phase of the moon

Answer: A

Difficulty: 1 Easy

Section: 01.03

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Phases of the Moon, Eclipses

74) Relative to the stars, the Moon moves from \_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_.

A) east; west

B) west; east

Answer: B

Difficulty: 1 Easy

Section: 01.03

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Phases of the Moon

75) During a solar eclipse, the \_\_\_\_\_\_\_\_ casts a small circular shadow on the \_\_\_\_\_\_\_\_.

A) Moon; Earth

B) Sun; Moon

C) Earth; Sun

D) Moon; Sun

E) Earth; Moon

Answer: A

Difficulty: 1 Easy

Section: 01.03

Topic: Astronomical Cycles

Bloom's: 1. Remember

Gradable: automatic

Subtopic: Phases of the Moon, Eclipses

76) Lunar eclipses do not occur every full Moon, because the path of the \_\_\_\_\_\_\_\_ is tilted relative to the \_\_\_\_\_\_\_\_.

A) Earth; ecliptic

B) Moon; ecliptic

C) Sun; ecliptic

D) Moon; equator

Answer: B

Difficulty: 1 Easy

Section: 01.03

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Eclipses

77) Which of the following statements about eclipses is true?

A) A total solar eclipse is visible from any location on the day-side of Earth.

B) A partial solar eclipse happens every month, but not the total solar eclipse.

C) A lunar eclipse is visible from any location on the night-side of Earth.

D) All of these choices are correct.

Answer: C

Difficulty: 1 Easy

Section: 01.03

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Eclipses

78) An annular eclipse

A) is a solar eclipse that happens every November.

B) occurs when the Moon's shadow does not completely reach Earth during a solar eclipse.

C) is a lunar eclipse that happens every November.

D) occurs when Earth's shadow does not completely reach the Moon during a lunar eclipse.

Answer: B

Difficulty: 1 Easy

Section: 01.03

Topic: Astronomical Cycles

Bloom's: 1. Remember

Gradable: automatic

Subtopic: Eclipses

79) At totality during the lunar eclipse, the Moon generally appears \_\_\_\_\_\_\_\_ in color.

A) bluish

B) yellowish

C) greenish

D) reddish

Answer: D

Difficulty: 1 Easy

Section: 01.03

Topic: Astronomical Cycles

Bloom's: 1. Remember

Gradable: automatic

Subtopic: Eclipses

80) What is the maximum number of eclipses that can occur in a year?

A) 2 (one solar and one lunar)

B) 4 (two solar and two lunar)

C) 7 (five solar and two lunar)

D) 7 (four solar and three lunar)

E) 7 (five solar and two lunar) or 7 (four solar and three lunar)

Answer: E

Difficulty: 2 Medium

Section: 01.03

Topic: Astronomical Cycles

Bloom's: 1. Remember

Gradable: automatic

Subtopic: Eclipses

81) Eclipses generally occur in pairs, with a solar eclipse about \_\_\_\_\_\_\_\_ before or after a lunar eclipse.

A) a day

B) a week

C) 2 weeks

D) a month

E) 2 months

Answer: C

Difficulty: 2 Medium

Section: 01.03

Topic: Astronomical Cycles

Bloom's: 1. Remember

Gradable: automatic

Subtopic: Eclipses

82) An annular solar eclipse occurs

A) when the Moon in its orbit is farthest from Earth, and, so not able to cover the complete disk of the Sun.

B) when the Moon in its orbit is closest to Earth, and, so not able to cover the complete disk of the Sun.

C) every year when the Sun is highest in the sky.

D) None of these choices is correct.

Answer: A

Difficulty: 1 Easy

Section: 01.03

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Eclipses

83) Are the Sun and the Moon ever above the horizon at the same time?

A) yes, always

B) yes, sometimes

C) no, never

D) The moon always rises as the sun sets.

Answer: B

Difficulty: 1 Easy

Section: 01.03

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Phases of the Moon

84) If there is a first-quarter moon visible from Paris one evening, six hours later in New York there will be full moon visible.

Answer: FALSE

Difficulty: 1 Easy

Section: 01.03

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Phases of the Moon

85) The first-quarter moon is at its highest point at about 6 P.M.

Answer: TRUE

Difficulty: 2 Medium

Section: 01.03

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Phases of the Moon

86) The first-quarter phase of the Moon in the Northern Hemisphere occurs at the time of the third-quarter phase in the Southern Hemisphere.

Answer: FALSE

Difficulty: 2 Medium

Section: 01.03

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Phases of the Moon

87) An annular solar eclipse occurs every year.

Answer: FALSE

Difficulty: 1 Easy

Section: 01.03

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Eclipses

88) The reason that solar eclipses are not observed each month is that the Moon's shadow only covers a small portion of Earth so very few people can actually see the monthly eclipses.

Answer: FALSE

Difficulty: 1 Easy

Section: 01.03

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Eclipses

89) It is possible for the Moon to rise at the same time as the Sun.

Answer: TRUE

Difficulty: 1 Easy

Section: 01.03

Topic: Astronomical Cycles

Bloom's: 1. Remember

Gradable: automatic

Subtopic: Phases of the Moon

90) During totality of a lunar eclipse the Moon disappears from view on the night sky.

Answer: FALSE

Difficulty: 2 Medium

Section: 01.03

Topic: Astronomical Cycles

Bloom's: 1. Remember

Gradable: automatic

Subtopic: Eclipses

91) The Moon takes approximately \_\_\_\_\_\_\_\_ to go through a cycle of phases.

A) 1 day

B) 7 days

C) 30 days

D) 90 days

Answer: C

Difficulty: 1 Easy

Section: 01.03

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Phases of the Moon

92) The Moon rises later each day because \_\_\_\_\_\_\_\_.

A) the Moon shifts eastward relative to the stars in its orbit around Earth

B) Earth moves approximately one degree per day in its orbit around the Sun

C) the Moon moves in its orbit faster than Earth rotates

D) the Moon follows an elliptical orbit around Earth

E) None of these choices is correct.

Answer: A

Difficulty: 2 Medium

Section: 01.03

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Phases of the Moon

93) The Moon moves \_\_\_\_\_\_\_\_ relative to the background stars over the course of an evening.

A) eastward

B) westward

C) northward

D) southward

E) The Moon does not move relative to the background stars.

Answer: A

Difficulty: 2 Medium

Section: 01.03

Topic: Astronomical Cycles

Bloom's: 2. Understand

Gradable: automatic

Subtopic: Phases of the Moon

94) The sidereal month is \_\_\_\_\_\_\_\_.

A) the time the Moon takes to complete an orbit relative to the background stars

B) the time it takes Earth to rotate 30 times on its axis

C) the time it takes the Moon to complete an orbit relative to the Sun

D) the time between successive new moons

E) None of these choices is correct.

Answer: A

Difficulty: 2 Medium

Section: 01.03

Topic: Astronomical Cycles

Bloom's: 1. Remember

Gradable: automatic

Subtopic: Phases of the Moon