

Space PAT Questions



Answer: B

54.3% Correct

Astronauts on the International Space Station recycle the water that they use, purify dirty water when necessary, and recover water from the humidity of the air within the station.

41. To manage their water requirements aboard the space station, astronauts do **not** need
- A. processes to purify drinking water
 - B. containers to store large quantities of water
 - C. a system to recover moisture from inside the space station
 - D. solar panels to provide electrical power for the water recycling process

Answer: D

56.8% Correct

42. Which of the following planets is considered to be terrestrial?

- A. Saturn
- B. Jupiter
- C. Uranus
- D. Mercury

Answer: D

76.8% Correct

Use the following information to answer question 43.

When satellites become obsolete, they are typically guided back into the atmosphere where they are destroyed. However, in January 2007, China used a ground-based missile to destroy one of its obsolete satellites that was orbiting Earth.

43. If other nations were to use satellite-destruction practices similar to China's, then the **most likely** result would be that
- A. space program costs could decrease
 - B. shuttles could be targeted by missiles
 - C. space junk would decrease, making space exploration easy
 - D. space junk would increase, making space exploration difficult
-

Answer: C

79.2% Correct

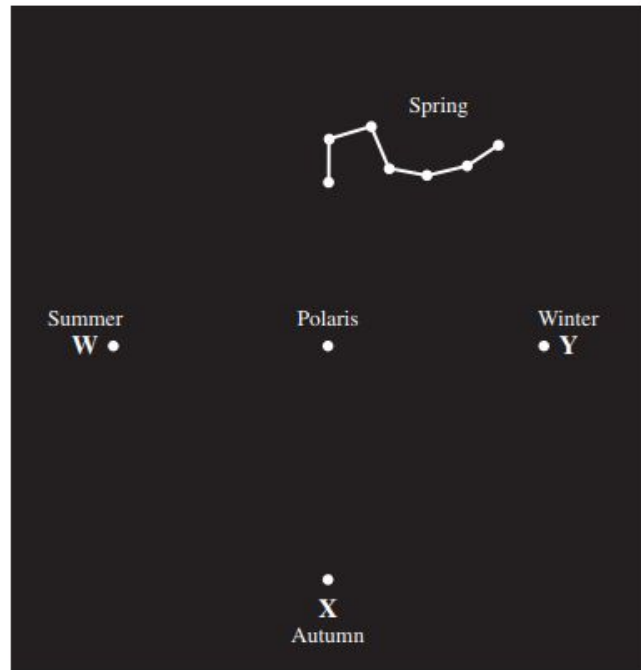
44. A total eclipse of the sun is caused by
- A. Earth passing between the sun and the moon
 - B. Earth spinning on its axis
 - C. the moon passing between the sun and Earth
 - D. the moon spinning on its axis

Use the following information to answer question 45.

Polaris (the North Star) is directly above Earth's geographic North Pole and is the only star in the sky that does not appear to move.

The diagram below shows the location of the Big Dipper relative to Polaris on a spring evening. The locations of the Big Dipper at the same time of day in the summer, autumn, and winter are represented by positions W, X, and Y respectively.

Seasonal Positions of the Big Dipper



45. Which of the following diagrams shows the orientation of the Big Dipper when viewed on an autumn evening at position X?

A.



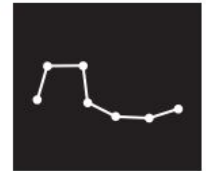
B.



C.



D.



Answer: C

63.8% Correct

Answer: C

68.6% Correct

46. The Hubble Space Telescope produces clearer images than similar telescopes that are used on Earth because
- A. the Hubble Space Telescope is travelling in a geosynchronous orbit
 - B. the Hubble Space Telescope is closer to the stars that it is viewing
 - C. there is no interference from Earth's atmosphere in space
 - D. there is no air pressure in space

Answer: A

57.9% Correct

From a specific point, a star can be found using the coordinates below.

Altitude = 32°

Azimuth = 45°

Peggy wants to find this star in the night sky.

47. To physically locate the star, Peggy must face north, turn *i* , and look *ii* above the horizon.

The statement above is completed by the information in row

Row	<i>i</i>	<i>ii</i>
A.	clockwise 45°	32°
B.	counterclockwise 45°	32°
C.	clockwise 32°	45°
D.	counterclockwise 32°	45°

Answer: 1432

52.2% Correct

Parts of the Universe

- | | |
|---|--------------|
| 1 | Earth |
| 2 | Milky Way |
| 3 | Solar system |
| 4 | Sun |

Numerical Response

- 5.** List the parts of the universe given above in order from the part with the smallest diameter to the part with the largest diameter.

**Smallest
diameter**

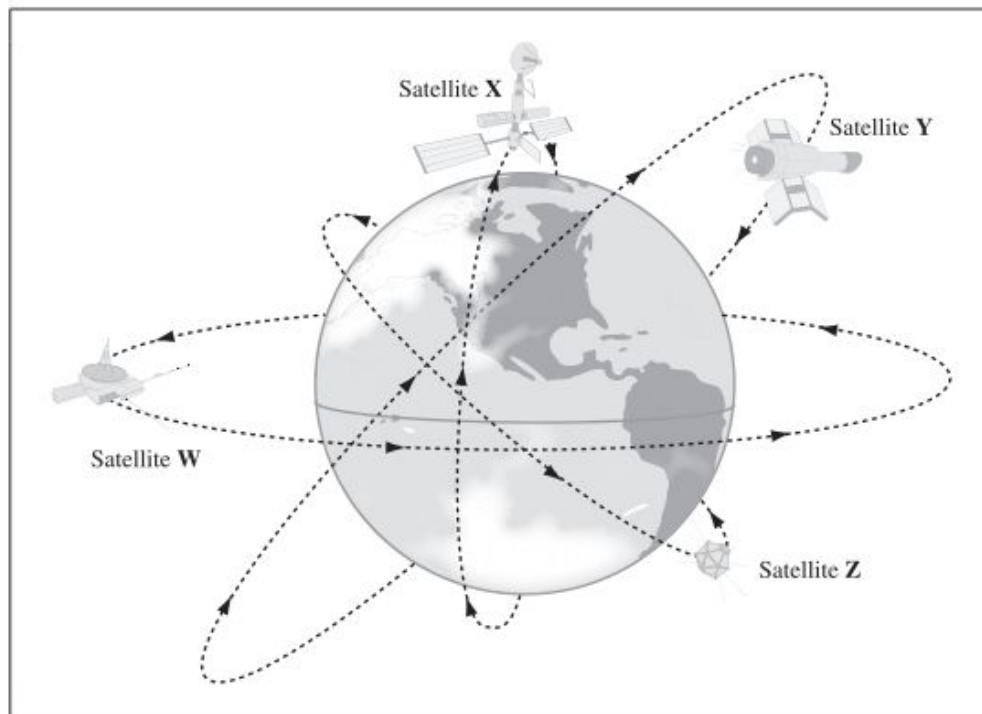
**Largest
diameter**

(Record all **four digits** of your answer in the numerical-response section on the answer sheet.)

Use the following diagram to answer question 48.

Answer: A

69.1% Correct



48. Which pair of satellites in the diagram above can transmit signals over the greatest area of Earth's surface?
- A. Satellites W and Y
 - B. Satellites W and Z
 - C. Satellites X and Y
 - D. Satellites X and Z

Answer: A

55.1% Correct

49. Astronomers can use a spectroscope to
- A. determine the composition of stars
 - B. map the location of celestial bodies in the sky
 - C. observe celestial bodies that were previously invisible
 - D. see images in space that are not distorted by Earth's atmosphere

Answer: C

74.0% Correct



50. The **best** baseline for triangulation to determine the distance between the unknown star and the sun shown above will be established when Earth is in positions W and

- A. V
- B. X
- C. Y
- D. Z