

Advanced Solar System Knowledge

Astronomy · Answer Key · 20 Questions

1. Which moon in the solar system possesses a dense atmosphere primarily composed of nitrogen and methane, with a surface pressure about 50% greater than Earth's?

- A) Io
- B) Titan**
- C) Ganymede
- D) Triton

2. What is the specific name for the gravitational point between two orbiting bodies where a small object can remain in a stable position relative to them?

- A) Roche Limit
- B) Lagrangian Point**
- C) Schwarzschild Radius
- D) Perihelion

3. The Oort Cloud is theorized to be located at what approximate distance from the Sun?

- A) 10-50 AU
- B) 500-1,000 AU
- C) 2,000-100,000 AU**
- D) 1-2 Light Years

4. Which planet has the highest axial tilt, causing it to roll along its orbital path like a ball?

- A) Venus
- B) Neptune
- C) Uranus**
- D) Saturn

5. The 'Great Red Spot' on Jupiter is a persistent high-pressure storm. How many Earth-diameters wide is it currently estimated to be?

- A) Approximately 1.3**
- B) Approximately 3.5
- C) Approximately 0.5
- D) Approximately 5.2

6. Which trans-Neptunian object is classified as a dwarf planet and is notable for its highly elongated, triaxial ellipsoid shape and rapid rotation?

- A) Eris
- B) Haumea**
- C) Makemake
- D) Sedna

7. What is the chemical composition of the primary rings of Saturn?

- A) Frozen water ice and rock**
- B) Sulfuric acid droplets
- C) Silicate dust and iron
- D) Solid metallic hydrogen

8. Which celestial body has a retrograde rotation, meaning it spins in the opposite direction of its orbit around the Sun?

- A) Mercury
- B) Mars
- C) Venus**
- D) Jupiter

9. What is the primary source of the heat that causes Io to be the most volcanically active body in the solar system?

- A) Radioactive decay
- B) Tidal heating**
- C) Residual primordial heat
- D) Solar radiation

10. The Kuiper Belt extends from the orbit of Neptune to approximately what distance?

- A) 30 AU to 50 AU**
- B) 50 AU to 100 AU
- C) 100 AU to 200 AU
- D) 5 AU to 30 AU

11. What is the name of the region between the inner and outer solar system where most asteroids orbit the Sun?

- A) Scattered Disc
- B) Asteroid Belt**
- C) Kuiper Belt
- D) Trojan Swarm

12. Which chemical compound is largely responsible for the distinct blue color of Neptune's atmosphere?

- A) Carbon Dioxide
- B) Methane**
- C) Ammonia
- D) Hydrogen Sulfide

13. What is the orbital period of Halley's Comet in years?

- A) 36-40
- B) 75-76**
- C) 120-125
- D) 200-205

14. Which moon is known as the 'Death Star' moon due to the massive Herschel crater on its surface?

- A) Phobos
- B) Deimos
- C) Mimas**
- D) Enceladus

15. The 'Sun's corona' is best described as what?

- A) The core where fusion occurs
- B) The outermost layer of the Sun's atmosphere**
- C) The visible surface of the Sun
- D) The magnetic field loops

16. Which planet has the longest 'day' (rotation period) in the solar system?

- A) Mars
- B) Venus**
- C) Mercury
- D) Neptune

17. What is the density of Saturn compared to water?

- A) Higher than water
- B) Lower than water**
- C) Equal to water
- D) None of the above

18. What is the term for the boundary where the Sun's solar wind is stopped by the interstellar medium?

- A) Heliopause**
- B) Oort limit
- C) Bow shock
- D) Event horizon

19. Which dwarf planet was formerly considered the largest object in the asteroid belt before being reclassified?

- A) Ceres**
- B) Pallas
- C) Vesta
- D) Hygiea

20. What is the main component of the atmosphere on Mars?

- A) Nitrogen
- B) Oxygen
- C) Carbon Dioxide**
- D) Argon