

Cosmic Geography and Celestial Mechanics

Astronomy And Space Science · Answer Key · 20 Questions

1. Which impact crater, located in the Vredefort Dome of South Africa, is currently recognized as the largest verified impact structure on Earth?

- A) Chicxulub
- B) Sudbury Basin
- C) Vredefort**
- D) Popigai

2. The 'Great Red Spot' on Jupiter is a persistent high-pressure storm. In which latitudinal band of the planet is it located?

- A) 22 degrees South**
- B) 15 degrees North
- C) Equatorial belt
- D) 45 degrees South

3. What is the specific name of the boundary where the Sun's solar wind is effectively stopped by the interstellar medium?

- A) Oort Cloud
- B) Heliopause**
- C) Kuiper Belt
- D) Termination Shock

4. Which moon of Saturn is the only natural satellite in the solar system known to have a substantial atmosphere and stable bodies of surface liquid?

- A) Enceladus
- B) Mimas
- C) Titan**
- D) Rhea

5. The Olympus Mons, the largest volcano in the solar system, is located on which specific Martian region?

- A) Tharsis**
- B) Hellas Planitia
- C) Utopia Planitia
- D) Amazonis Planitia

6. What is the orbital eccentricity of Pluto, which causes its distance from the Sun to vary significantly?

- A) 0.016
- B) 0.093
- C) 0.248**
- D) 0.485

7. Which galaxy is the most distant object visible to the naked eye from Earth under perfect viewing conditions?

- A) Triangulum Galaxy
- B) Andromeda Galaxy**
- C) Large Magellanic Cloud
- D) Whirlpool Galaxy

8. What is the primary constituent of the ice found on the surface of Europa, one of Jupiter's Galilean moons?

- A) Frozen Nitrogen
- B) Water Ice**
- C) Dry Ice
- D) Ammonia Ice

9. The 'Champagne' region of the Moon is informally associated with which lunar geological feature known for its high concentration of volcanic glass?

- A) Mare Tranquillitatis
- B) Aristarchus Plateau**
- C) Tycho Crater
- D) South Pole-Aitken basin

10. Which planet has the highest axial tilt, effectively rotating on its side relative to its orbital plane?

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

11. What is the name of the hypothetical region of the galaxy where life-supporting conditions are most likely to exist?

- A) Galactic Habitable Zone**
- B) Stellar Nursery
- C) Globular Cluster
- D) Event Horizon

12. The Magellanic Clouds are classified as what type of galaxy, orbiting the Milky Way?

- A) Spiral
- B) Elliptical
- C) Irregular**
- D) Lenticular

13. Which chemical element was first discovered in the Sun's spectrum before it was found on Earth?

- A) Hydrogen
- B) Helium**
- C) Neon
- D) Argon

14. What is the classification of the asteroid 1 Ceres, which accounts for approximately one-third of the total mass of the asteroid belt?

- A) Dwarf Planet**
- B) C-type Asteroid
- C) Near-Earth Object
- D) Centaur

15. The Kuiper Cliff is a sharp drop-off in the density of objects in the Kuiper belt, located at approximately what distance from the Sun?

- A) 30 AU
- B) 50 AU**
- C) 75 AU
- D) 100 AU

16. Which constellation contains the star system Alpha Centauri, the closest stellar neighbor to the Solar System?

- A) Crux
- B) Centaurus**
- C) Carina
- D) Orion

17. The 'Great Dark Spot' was a prominent storm feature observed on which planet by the Voyager 2 spacecraft in 1989?

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

18. What term describes the point in an orbit where a planet or moon is farthest from its parent body?

- A) Perihelion
- B) Aphelion
- C) Apogee
- D) Apoapsis**

19. Which gas, present in Uranus's atmosphere, is responsible for its distinct cyan appearance by absorbing red light?

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

20. The terrestrial planet Venus rotates in which direction, contrary to the majority of other planets in the solar system?

- A) Prograde
- B) Retrograde**
- C) Vertical
- D) Oscillatory