

Set C

1.What is the primary location of the asteroid belt in our Solar System?

- A) Between Mars and Jupiter
- B) Between Jupiter and Saturn
- C) Beyond Neptune
- D) Between Earth and Venus

2.Which comet is famous for being visible from Earth approximately every 76 years?

- A) Comet Hale-Bopp
- B) Comet Swift-Tuttle
- C) Halley's Comet
- D) Comet Encke

3.Which rover confirmed the presence of water ice below Mars' surface?

- A) Viking 1
- B) Spirit
- C) Curiosity
- D) Phoenix

4.What is the primary purpose of Perseverance's MOXIE instrument?

- A) Detecting life
- B) Analyzing soil composition
- C) Converting carbon dioxide into oxygen
- D) Measuring radiation

5.What is SpaceX's ultimate goal for the population of a Mars colony?

- A) 1,000 people
- B) 100,000 people
- C) 1 million people
- D) 10 million people

6.Which fuel combination is planned for the Starship's Raptor engines on Mars missions?

- A) Kerosene and liquid oxygen
- B) Methane and liquid oxygen
- C) Hydrogen and liquid oxygen

D) Hydrogen and nitrogen

7.Which two stars in Ursa Major are known as the "pointer stars" because they help locate Polaris?

A) Mizar and Alcor

B) Alioth and Megrez

C) Dubhe and Merak

D) Phecda and Dubhe

8.In ancient Greek mythology, what does the constellation Lyra symbolize?

A) A lyre given to Orpheus by Apollo

B) A shield used in battle

C) A warrior's helmet

D) The chariot of Hercules

9.What is the goal of nuclear fusion research on Earth?

A) To create helium

B) To produce clean and limitless energy

C) To power nuclear weapons

D) To reduce global warming

10.Which telescope is known for capturing deep-space images and was launched in 1990?

A) Hubble Space Telescope

B) Spitzer Space Telescope

C) James Webb Space Telescope

D) Voyager Telescope

11.Which of the following is NOT an astronomical observatory?

A) Mauna Kea

B) Greenwich

C) Ellis Island

D) Palomar

12.Which spacecraft was the first to land humans on the Moon?

A) Apollo 11

B) Luna 2

C) Vostok 1

D) Gemini 4

13.The boundary layer between the mesosphere and the thermosphere, marking a temperature shift, is called the

- A) Tropopause
- B) Stratopause
- C) Mesopause
- D) Exopause

14.Which layer of the atmosphere is known for experiencing temperatures that decrease with altitude, leading to the coldest temperatures?

- A) Troposphere
- B) Stratosphere
- C) Mesosphere
- D) Thermosphere

15.Which of the following technologies is essential for converting Mars' atmospheric CO₂ into oxygen?

- A) Solar cells
- B) Nuclear reactors
- C) MOXIE (Mars Oxygen In-Situ Resource Utilization Experiment)
- D) Hydroponics

16.Mars' gravity is approximately what percentage of Earth's gravity, which could affect human health in long-term habitation?

- A) 38%
- B) 56%
- C) 68%
- D) 85%

17.The OSIRIS-REx mission was launched to study which asteroid in detail and collect samples?

- A) Bennu
- B) Ryugu
- C) Ceres
- D) Vesta

18.What was the primary goal of NASA's DART mission in relation to asteroid exploration?

- A) Study the composition of asteroids
- B) Divert an asteroid's orbit as a planetary defense test
- C) Land on and collect samples from an asteroid
- D) Map the asteroid belt

19.What is the correct sequence of the Moon phases starting from a New Moon?

- A) New Moon, Full Moon, First Quarter, Third Quarter
- B) New Moon, Waxing Crescent, Full Moon, Waning Crescent
- C) New Moon, Waxing Crescent, First Quarter, Waxing Gibbous, Full Moon, Waning Gibbous, Third Quarter, Waning Crescent
- D) New Moon, Waxing Crescent, Third Quarter, Waning Crescent

Answer: C) New Moon, Waxing Crescent, First Quarter, Waxing Gibbous, Full Moon, Waning Gibbous, Third Quarter, Waning Crescent

20.Which phase occurs about a week after a Full Moon when half of the Moon is visible, and the illuminated portion is decreasing?

- A) Third Quarter
- B) Waxing Crescent
- C) First Quarter
- D) Waning Gibbous

21.What is the Cosmic Microwave Background Radiation (CMB), and why is it significant?

- A) Radiation from stars, evidence of star formation
- B) Remnant heat from the Big Bang, evidence of the early universe's hot, dense state
- C) Radiation emitted by black holes, evidence of their strong gravity
- D) Energy from galaxy collisions, evidence of an expanding universe

22.What concept explains the initial rapid expansion of the universe in the very first moments after the Big Bang?

- A) Cosmic radiation
- B) Cosmic inflation
- C) Gravitational pull
- D) Black hole formation

23.What type of environment is used in astronaut training to simulate the effects of microgravity experienced in space?

- A) High-altitude chambers
- B) Zero-gravity flights, also called parabolic flights
- C) Thermal vacuum chambers
- D) Altitude sickness chambers

24. Astronauts often train in full spacesuits underwater. What challenge does this help them prepare for?

- A) Extreme temperatures in space
- B) Radiation exposure
- C) Weightlessness and movement in microgravity
- D) High-speed reentry

25. What is the role of ailerons in an aircraft's control surfaces?

- A) Control pitch by adjusting the nose up or down
- B) Control yaw by adjusting the tail left or right
- C) Control roll by adjusting the wings up or down
- D) Control airspeed by reducing drag

26. What is a primary advantage of using a delta wing design, particularly for supersonic aircraft?

- A) Improved low-speed maneuverability
- B) High lift generation at low speeds
- C) Better performance and stability at supersonic speeds
- D) Reduced landing speed requirements

27. If you are located near the equator, how does the sunset differ compared to locations farther from the equator?

- A) The Sun sets at a more shallow angle and takes longer to disappear
- B) The Sun sets quickly and at a steep angle
- C) The Sun sets at the same angle year-round
- D) The Sun does not set at all during certain times of the year

28. Which celestial event occurs when the Sun is positioned at exactly 180 degrees from an observer on Earth, resulting in a day with the longest duration of darkness?

- A) Equinox
- B) Solstice
- C) Lunar eclipse

D) Solar eclipse

29. In *Space Medica*, what does the "Medicare" system allow players to do?

A) To recruit and train medical personnel

B) To research and develop medical technologies

C) To provide emergency medical services to spacecraft

D) To manage the health and well-being of crew members

30. Which of the following is a common psychological challenge faced by astronauts during long missions in space?

A) Increased appetite

B) Euphoria

C) Isolation and confinement stress

D) Enhanced cognitive function