

Introduction to Astrophysics

Astrophysics · Answer Key · 18 Questions

1. What is the primary source of energy for stars, including our Sun?

- A) Chemical reactions
- B) Nuclear fusion**
- C) Gravitational collapse
- D) Friction from rotation

2. Which astronomical object is characterized by a gravitational pull so strong that not even light can escape it?

- A) White dwarf
- B) Nebula
- C) Black hole**
- D) Neutron star

3. What is the name of the galaxy our Solar System is located in?

- A) Andromeda Galaxy
- B) Magellanic Cloud
- C) Milky Way Galaxy**
- D) Triangulum Galaxy

4. The Sun is a medium-sized star. What is the closest star to Earth besides the Sun?

- A) Sirius
- B) Alpha Centauri
- C) Proxima Centauri**
- D) Betelgeuse

5. What force is primarily responsible for holding stars and galaxies together?

- A) Electromagnetism
- B) Strong nuclear force
- C) Weak nuclear force
- D) Gravity**

6. What are the most common elements that make up stars, like our Sun?

- A) Oxygen and Carbon
- B) Iron and Nickel
- C) Hydrogen and Helium**
- D) Nitrogen and Oxygen

7. Which celestial bodies orbit planets?

- A) Comets
- B) Asteroids
- C) Moons**
- D) Stars

8. What is a light-year a unit of?

- A) Time
- B) Brightness
- C) Mass
- D) Distance**

9. What phenomenon causes the different phases of the Moon as seen from Earth?

- A) Earth's shadow
- B) The Moon emitting its own light
- C) The Moon's orbit around Earth and the Sun's illumination**
- D) Clouds in Earth's atmosphere

10. What is a nebula?

- A) A type of star
- B) A collection of planets
- C) An interstellar cloud of dust and gas**
- D) A large asteroid

11. Which planet in our Solar System is known for its prominent rings?

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

12. What is the term for a star that has collapsed under its own gravity and is in its final stages of stellar evolution, often leaving behind a dense core?

- A) Protostar
- B) Red giant
- C) White dwarf**
- D) Supernova

13. What is the process by which planets are formed from the accretion of dust and gas in a protoplanetary disk?

- A) Evaporation
- B) Condensation
- C) Accretion**
- D) Sublimation

14. What is the term for a massive system of stars, stellar remnants, interstellar gas, dust, and dark matter bound together by gravity?

- A) Solar System
- B) Constellation
- C) Galaxy**
- D) Cluster

15. The expansion of the universe is evidence for which major cosmological theory?

- A) Steady State Theory
- B) Big Bang Theory**
- C) Oscillating Universe Theory
- D) Plasma Cosmology

16. What type of celestial object is the Sun?

- A) Planet
- B) Comet
- C) Star**
- D) Asteroid

17. What instrument is used to observe distant celestial objects by collecting and focusing light?

- A) Microscope
- B) Telescope**
- C) Binoculars
- D) Periscope

18. Which of the following is the correct order of the inner planets from the Sun outwards?

- A) Mercury, Venus, Earth, Mars**
- B) Earth, Mars, Venus, Mercury
- C) Mercury, Earth, Venus, Mars
- D) Venus, Mercury, Mars, Earth