Advanced Middle School Astronomy

Astronomy · Answer Key · 15 Questions

1. Which layer of the Sun is responsible for the emission of the majority of the light we observe from Earth?

A) Corona
B) Chromosphere
C) Photosphere
D) Convection zone

2. What is the primary scientific classification of the asteroid belt's largest object, Ceres?

A) Dwarf planet
B) Asteroid
C) Comet
D) Moon

3. Which phenomenon explains why the same side of the Moon is always facing the Earth?

A) Orbital resonance
B) Tidal locking
C) Retrograde rotation
D) Geocentric alignment

4. In the Hertzsprung-Russell diagram, where are white dwarf stars located?

A) Top right
B) Top left
C) Bottom right
D) Bottom left

5. Which chemical element is the primary product of nuclear fusion in a main-sequence star?

A) Helium
B) Carbon
C) Iron
D) Oxygen

6. What is the name of the boundary surrounding a black hole from which nothing, not even light, can escape?

A) Singularity
B) Accretion disk
C) Event horizon
D) Schwarzschild radius

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7. Which planet has an axial tilt of approximately 98 degrees, causing it to rotate nearly on its side?

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

8. What measurement unit is defined as the distance light travels in a vacuum in one Julian year?

A) Astronomical Unit
B) Parsec
C) Light-year
D) Megaparsec

9. What occurs at the point in an orbit where a planet is furthest from the Sun?

A) Perihelion
B) Aphelion
C) Equinox
D) Solstice

10. Which galaxy is the closest large spiral neighbor to the Milky Way?

A) Triangulum Galaxy
B) Andromeda Galaxy
C) Magellanic Cloud
D) Whirlpool Galaxy

11. What gas primarily makes up the atmosphere of Venus?

A) Nitrogen
B) Oxygen
C) Carbon dioxide
D) Methane

12. Which of these moons is known for its active cryovolcanism and massive plumes of water ice?

A) Europa
B) Enceladus
C) Titan
D) Ganymede

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13. What type of star is the Sun classified as in terms of its spectral class?

A) G2V
B) M8III
C) O9I
D) B0V

14. Which force is primarily responsible for the collapse of a molecular cloud to form a protostar?

A) Electromagnetism
B) Strong nuclear force
C) Gravity
D) Centrifugal force

15. What is the term for a star that experiences periodic changes in luminosity due to physical pulsation?

A) Binary star
B) Cepheid variable
C) Neutron star
D) Red giant