

Advanced Physics Fundamentals

Physics · Answer Key · 20 Questions

1. What is the unit used to measure the intensity of sound?

- A) Hertz
- B) Decibels**
- C) Amperes
- D) Newtons

2. Which state of matter has particles that are packed tightly together and vibrate in place?

- A) Gas
- B) Plasma
- C) Liquid
- D) Solid**

3. What is the term for the invisible force that pulls objects toward the center of the Earth?

- A) Magnetism
- B) Friction
- C) Gravity**
- D) Inertia

4. Light travels fastest through which of these environments?

- A) Water
- B) A vacuum**
- C) Glass
- D) Air

5. What particles are found in the center (nucleus) of an atom?

- A) Protons and neutrons**
- B) Electrons and ions
- C) Photons and quarks
- D) Electrons and protons

6. Which of these is a form of kinetic energy?

- A) Chemical energy
- B) Energy of motion**
- C) Stored elastic energy
- D) Nuclear energy

7. What is the primary law that describes how pressure increases with depth in a fluid?

- A) Newton's First Law
- B) Archimedes' Principle
- C) Pascal's Law**
- D) Hooke's Law

8. When light bends as it passes from air into water, this process is known as what?

- A) Reflection
- B) Diffraction
- C) Absorption
- D) Refraction**

9. Which of these colors of the visible light spectrum has the longest wavelength?

- A) Red**
- B) Blue
- C) Green
- D) Violet

10. What kind of lens is needed to correct nearsightedness?

- A) Convex
- B) Concave**
- C) Planar
- D) Cylindrical

11. In physics, what do we call the rate at which work is done?

- A) Force
- B) Energy
- C) Power**
- D) Mass

12. What is the term for the opposition to the flow of electric current in a conductor?

- A) Voltage
- B) Resistance**
- C) Capacitance
- D) Inductance

13. What is the name of the constant speed at which an object falls when air resistance equals the force of gravity?

A) Terminal velocity

B) Escape velocity

C) Acceleration

D) Momentum

14. Which particle in an atom has a negative electrical charge?

A) Proton

B) Neutron

C) Electron

D) Nucleus

15. What type of energy is stored in a compressed spring?

A) Thermal energy

B) Potential energy

C) Kinetic energy

D) Chemical energy

16. The study of heat and its relation to energy and work is called what?

A) Optics

B) Thermodynamics

C) Acoustics

D) Mechanics

17. Which of the following is considered a non-renewable energy source?

A) Solar

B) Wind

C) Coal

D) Geothermal

18. What is the mass per unit volume of a substance called?

A) Weight

B) Density

C) Buoyancy

D) Volume

19. What force acts between two surfaces that are rubbing against each other?

A) Friction

B) Magnetism

C) Gravity

D) Inertia

20. According to Newton's Third Law, for every action, there is an equal and opposite what?

- A) Velocity
- B) Mass
- C) Reaction**
- D) Acceleration