High School Physics Essentials

Advanced Physics · Answer Key · 15 Questions

1. What is the SI unit of power?

A) Joule
B) Watt
C) Newton
D) Pascal

2. Which law states that the force acting on an object is equal to the mass of that object times its acceleration?

A) Newton's First Law
B) Newton's Second Law
C) Newton's Third Law
D) Hooke's Law

3. What is the constant speed of light in a vacuum, approximately?

A) 3.00 x 10^8 m/s
B) 1.50 x 10^8 m/s
C) 3.00 x 10^6 m/s
D) 9.81 x 10^8 m/s

4. Which form of heat transfer occurs through the direct contact of particles?

A) Convection
B) Radiation
C) Conduction
D) Induction

5. In an electric circuit, what is the unit of electrical resistance?

A) Ampere
B) Volt
C) Ohm
D) Coulomb

6. What type of wave is a sound wave?

A) Transverse
B) Electromagnetic
C) Longitudinal
D) Circular

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7. Which fundamental force is responsible for holding the nucleus of an atom together?

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

8. What physical quantity is defined as the rate of change of velocity?

A) Speed
B) Momentum
C) Acceleration
D) Displacement

9. According to the kinetic molecular theory, what happens to particle motion as temperature increases?

A) It stops
B) It decreases
C) It remains constant
D) It increases

10. What is the value of the acceleration due to gravity on Earth near the surface?

A) 1.6 m/s^2
B) 9.8 m/s^2
C) 10.5 m/s^2
D) 98 m/s^2

11. Which component in a circuit is used to store electrical energy in an electric field?

A) Resistor
B) Transistor
C) Capacitor
D) Inductor

12. What property of a wave is determined by its amplitude?

A) Frequency
B) Speed
C) Wavelength
D) Loudness/Intensity

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13. What is the work done on an object when a force is applied perpendicular to the direction of motion?

A) Positive
B) Negative
C) Zero
D) Maximum

14. Which particle in an atom carries a negative charge?

A) Proton
B) Neutron
C) Electron
D) Positron

15. What is the relationship between frequency and period of a wave?

A) They are unrelated
B) They are equal
C) They are inversely proportional
D) They are directly proportional

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