MULTIPLE CHOICE

SOUND - PRACTICE SET

1. What is another term for sound waves?

A. Electromagnetic waves
B. Static waves
C. Thermal waves
D. Acoustic waves

2. What does rarefied mean in a sound wave?

A. In phase
B. At maximum pressure
C. Squeezed together
D. Spread apart

3. What are appropriate units for density?

A. Pa
B. kg/m^3 or g/cm^3
C. W/cm^2
D. m/s

4. What does compressed mean in a sound wave?

A. Squeezed together
B. Out of phase
C. At rest
D. Spread apart

5. Which acoustic variable measures particle motion?

A. Pressure
B. Distance
C. Intensity
D. Density

6. What occurs when multiple sound waves arrive at the same location at the same time?

A. Interference
B. Refraction
C. Range ambiguity
D. Attenuation

7. What is the concentration of mass within a volume called?

A. Intensity
B. Amplitude
C. Pressure
D. Density

8. What results when out-of-phase waves combine?

A. Destructive interference with lesser amplitude
B. Reflection with a larger echo
C. No interference and unchanged amplitude
D. Constructive interference with greater amplitude

9. What are paired waves called when their peaks occur at the same time and location?

A. Attenuated waves
B. Out-of-phase waves
C. Rarefied waves
D. In-phase waves

10. What is the concentration of force over an area called?

A. Density
B. Pressure
C. Intensity
D. Power

11. True or False? Sound waves are transverse waves.

A. False
B. True

12. What type of interference can occur when waves of different frequencies combine?

A. Both constructive and destructive interference
B. Only constructive interference
C. No interference
D. Only destructive interference

13. What results when in-phase waves combine?

A. Destructive interference with lesser amplitude
B. Constructive interference with greater amplitude
C. No interference and unchanged amplitude
D. Refraction with a changed direction

14. What do waves carry from one location to another?

A. Vacuum
B. Matter
C. Energy
D. Density

15. What happens to the resulting wave amplitude during destructive interference?

A. It increases
B. It decreases
C. It stays the same
D. It doubles

16. What types of units are used to measure distance?

A. Length units such as cm, mm, feet, or miles
B. Square units such as cm^2 or ft^2
C. Frequency units such as Hz or MHz
D. Cubic units such as cm^3 or ft^3

17. Constructive interference occurs when waves have what phase relationship?

A. Unrelated waves
B. Fully attenuated waves
C. Out-of-phase waves
D. In-phase waves

18. Destructive interference occurs when waves have what phase relationship?

A. Out-of-phase waves
B. Unchanged waves
C. Fully absorbed waves
D. In-phase waves

19. What happens to the resulting wave amplitude during constructive interference?

A. It becomes zero
B. It increases
C. It decreases
D. It stays the same

20. What are the units of pressure?

A. Hertz (Hz)
B. Watts (W)
C. Pascals (Pa)
D. Meters per second (m/s)

21. How do particles move in a longitudinal wave?

A. Perpendicular to the direction of wave propagation
B. Parallel to the direction of wave propagation
C. Only along the surface of the medium
D. Without compression or rarefaction

22. What is another name for in-phase waves?

A. At rest
B. In step
C. Out of range
D. Out of step

23. Which three acoustic variables are commonly used to describe a sound wave?

A. Period, frequency, and wavelength
B. Power, intensity, and amplitude
C. Reflection, refraction, and attenuation
D. Pressure, density, and distance

24. True or False? Light, sound, heat, and magnetism are forms of energy that can be described by waves.

A. True
B. False

25. True or False? Sound generally travels in a straight line unless it is redirected by interaction with a medium.

A. True
B. False