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* للحصول على أوراق عمل لجميع مواد الصف السابع اضغط هنا

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Sound

Name _____ Class _____ Date _____

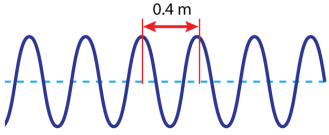
1 A boat is anchored at sea. What does the **up and down** motion of the boat show?



A The molecules of water only move up and down while the energy moves forward.
 B The ocean is standing still.
 C The boat's motor is on.
 D The molecules of water move side to side while the energy moves forward.

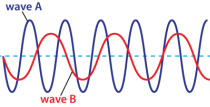
2 What is the **frequency** of a wave with a **speed of 20 m/s** and a **wavelength of 0.4 m**?

wave speed = wavelength x frequency



A 8 Hz
 B 0.2 Hz
 C 50 Hz
 D 20.4 Hz

3 Which statement about **wave A** and **wave B** is **correct**?



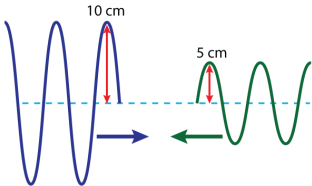
A Wave A has a greater amplitude and a greater wavelength.
 B Wave B has a greater amplitude and a greater wavelength.
 C Wave A has a greater amplitude and a shorter wavelength.
 D Wave B has a greater amplitude and a shorter wavelength.

4 Speed of sound changes due to the medium in which sound waves travel. Based on this chart, what is the **overall trend** from the **slowest to the fastest** medium?

Speed of Sound		
medium		speed
gases	air (0° C)	331
	air (20° C)	343
liquids (30° C)	fresh water	1,509
	salt water	1,546
solids (25° C)	lead	1,210
	iron	4,480
	aluminum	5,000
	glass	5,170

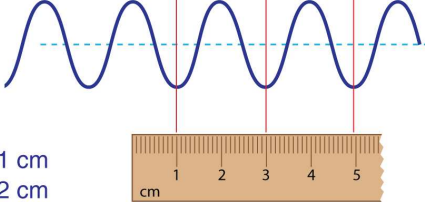
A solids, liquids, gases
 B gases, liquids, solids
 C liquids, solids, gases
 D all the same speed

5 Two waves are moving in **opposite directions** through a medium. The waves will **interfere constructively**. What is the **amplitude** of the wave produced when wave A and B meet?



A 0
 B 15
 C 5
 D 20

6 What is the **wavelength** of the wave?

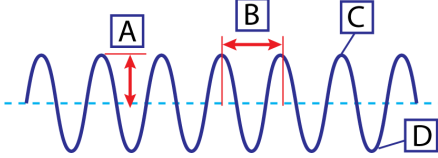


A 1 cm
 B 2 cm
 C 3 cm
 D 4 cm

7 When you sit in a certain seat in an auditorium you notice the sound is actually **softer** than it is a few seats forward. Which **wave interaction** explains this problem?

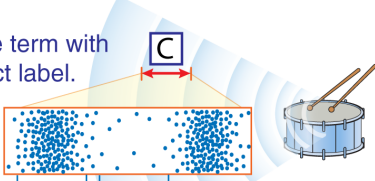
A reflection
 B interference
 C diffraction
 D refraction

8 Match the term with the correct label.



trough amplitude
 wavelength crest

9 Match the term with the correct label.



compression
 rarefaction wavelength

10 Match the term with the correct definition.

music A. sound that produces pleasing patterns
 overtones B. distinct sound of an instrument
 resonance
 quality of sound C. natural vibrational frequency

Sound

ANSWER KEY

A boat is anchored at sea. What does the **up and down** motion of the boat show?



- A The molecules of water only move up and down while the energy moves forward.
- B The ocean is standing still.
- C The boat's motor is on.
- D The molecules of water move side to side while the energy moves forward.

(a)

ANSWER

C

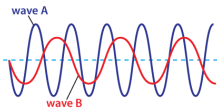
50 Hz

$$\text{speed} = \text{wavelength} \times \text{frequency}$$

$$20 \text{ m/s} = 0.4 \text{ m} \times \text{frequency}$$

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Which statement about **wave A** and **wave B** is **correct**?



- A Wave A has a greater amplitude and a greater wavelength.
- B Wave B has a greater amplitude and a greater wavelength.
- C Wave A has a greater amplitude and a shorter wavelength.
- D Wave B has a greater amplitude and a shorter wavelength.

(c)

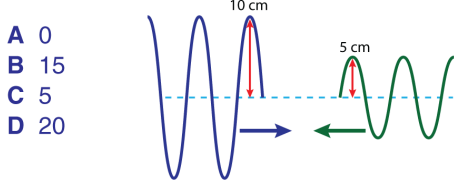
Speed of sound changes due to the medium in which sound waves travel. Based on this chart, what is the **overall trend** from the **slowest to the fastest** medium?

- A solids, liquids, gases
- B gases, liquids, solids
- C liquids, solids, gases
- D all the same speed

Speed of Sound		
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	iron	4,480
	aluminum	5,000
	glass	5,170

(b)

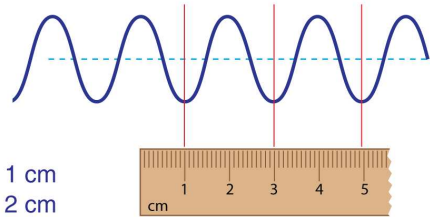
Two waves are moving in **opposite directions** through a medium. The waves will **interfere constructively**. What is the **amplitude** of the wave produced when wave A and B meet?



- A 0
- B 15
- C 5
- D 20

(b)

What is the **wavelength** of the wave?



- A 1 cm
- B 2 cm
- C 3 cm
- D 4 cm

(b)

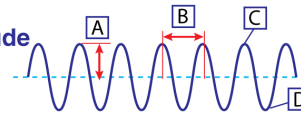
When you sit in a certain seat in an auditorium you notice the sound is actually **softer** than it is a few seats forward. Which **wave interaction** explains this problem?

- A reflection
- B interference
- C diffraction
- D refraction

(b)

ANSWER

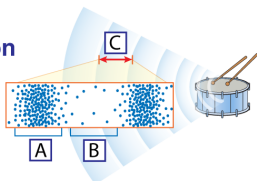
- D trough
- B wavelength
- A amplitude
- C crest



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ANSWER

- A compression
- B rarefaction
- C wavelength



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ANSWER

- A **music**: sound that produces pleasing patterns
- C **resonance**: natural vibrational frequency
- B **quality of sound**: distinct sound of an instrument

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