



## Section A

1. Define the term wavelength.
2. Define the term amplitude.

## Section B

1. How do the particles vibrate in a transverse wave?
2. How do the particles vibrate in a longitudinal wave?
3. What is diffraction?

## Section C

1. A student makes the following statements about waves.
  - I. In a transverse wave, the particles vibrate parallel to the direction of travel of the wave.
  - II. Light waves and water waves are both transverse waves.

III. Sound waves are longitudinal waves.

Which of these statements is/are correct?

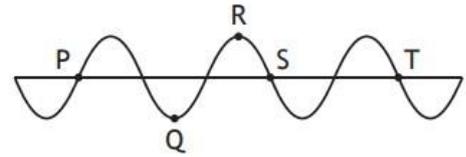
- A. I only
- B. II only
- C. III only
- D. I and II only
- E. II and III only

2. A student makes the following statements about waves.

- I. Waves transfer energy.
- II. A wave with a short wavelength diffracts more than a wave with a long wavelength.
- III. The amplitude of a wave depends on its wavelength. Which of these statements is/are correct?

- A. I only
- B. II only
- C. III only
- D. I and II only
- E. I and III only

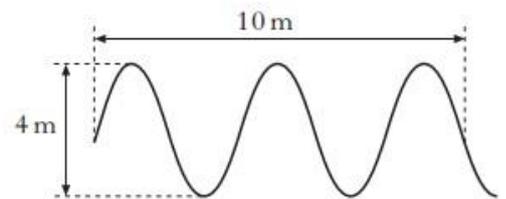
3. The diagram represents a wave.



The wavelength of the wave is the horizontal distance between points A. P and Q

- B. P and S
- C. Q and R
- D. R and S
- E. S and T

4. The following diagram gives information about a wave.



Which row shows the amplitude and wavelength of the wave?

	Amplitude (m)	Wavelength (m)
A.	2	2
B.	2	4
C.	2	5
D.	4	2
E.	4	4

5. Which of the following is an example of a longitudinal wave?

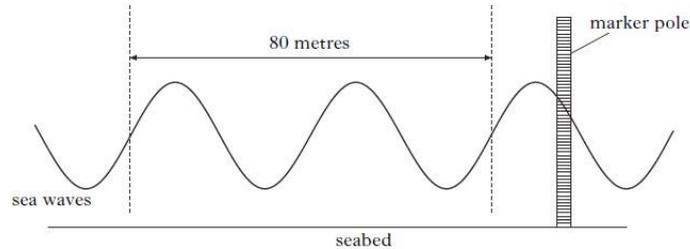
- A. Light wave
- B. Infra-red wave
- C. Radio wave
- D. Sound wave
- E. Water wave



## Section D

1. A surfer rides the waves near a beach.

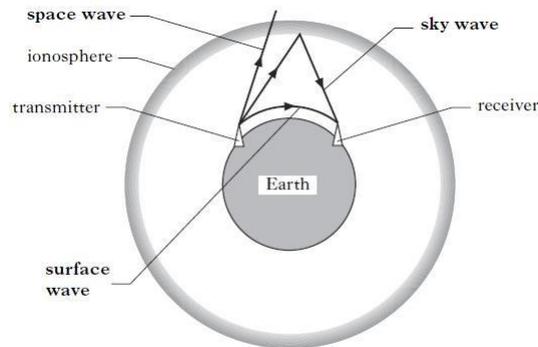
The diagram below shows a wave some distance from the beach.



Using information from the diagram, calculate the wavelength of the wave.

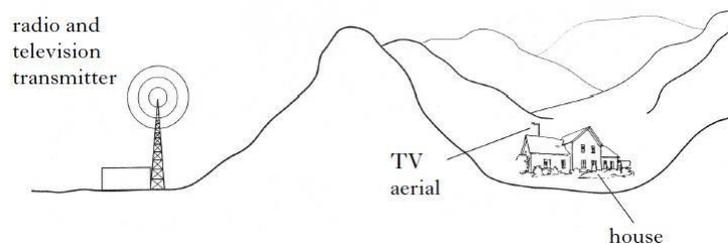
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2. The diagram shows how radio signals of different wavelengths are sent between a transmitter and a receiver



Not to scale

- a) Which of the waves in the diagram shows diffraction? **1**
- b) What does this indicate about the wavelength of the diffracted wave compared to the other two waves? **1**
3. A hill lies between a radio and television transmitter and a house. The house is within the range of both the radio and television signals from the transmitter.



In the house, a radio has good reception but a TV has poor reception from this transmitter. Using your knowledge of Physics, explain why this is.

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