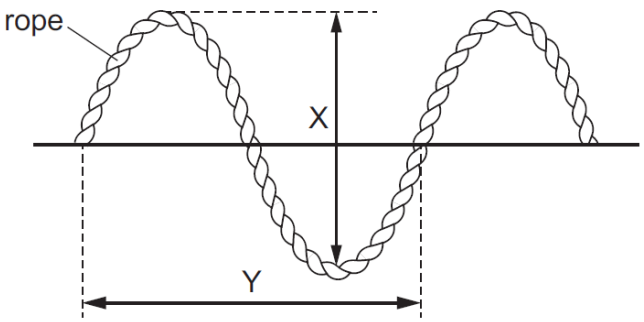
Waves – 2021 IGCSE 0625

1. June/2021/Paper_11/No.21

The diagram represents a wave on a rope.



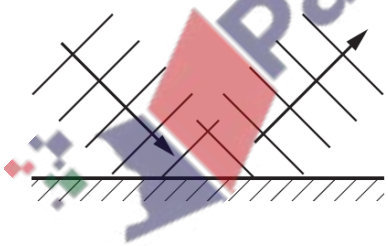
Which type of wave is shown and which labelled arrow shows the wavelength of the wave?

	type of wave	wavelength
A	longitudinal	X
B	longitudinal	Y
C	transverse	X
D	transverse	Y

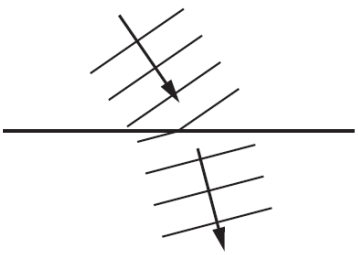
2. June/2021/Paper_12/No.21

Which diagram shows waves diffracting?

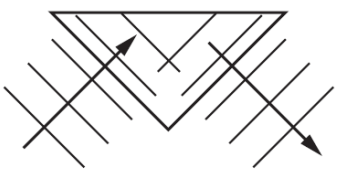
A



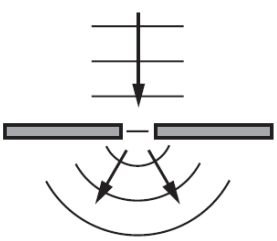
B



C

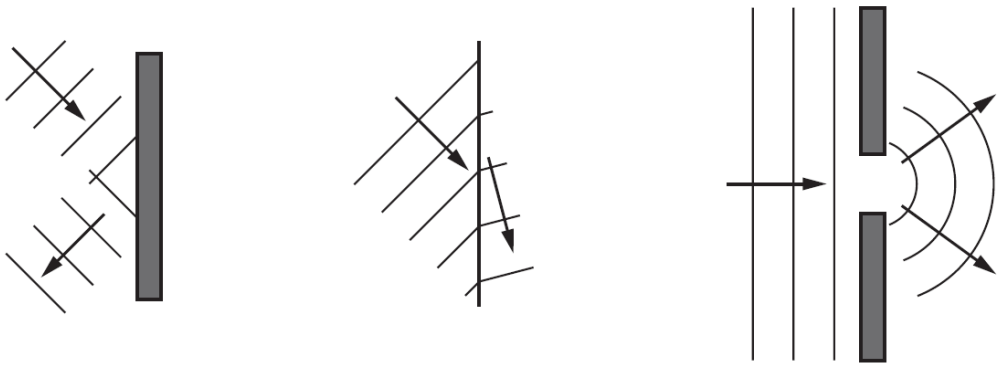


D



3. June/2021/Paper_11/No.22

The diagrams show water waves in three different situations. The arrows show the direction of travel of the waves.



1 2 3

What does each diagram show?

	1	2	3
A	diffraction	reflection	refraction
B	diffraction	refraction	reflection
C	reflection	diffraction	refraction
D	reflection	refraction	diffraction

4. June/2021/Paper_13/No.21

A child bounces up and down on a trampoline. The instructor asks her to bounce with a higher frequency.

What does the instructor mean?

A Bounce higher on the trampoline.

B Bounce more times in each minute.

C Take more time to bounce.

D Bounce with a slower speed.

5. June/2021/Paper_13/No.22

Light waves pass through a gap. The diagrams show two possibilities for what occurs.

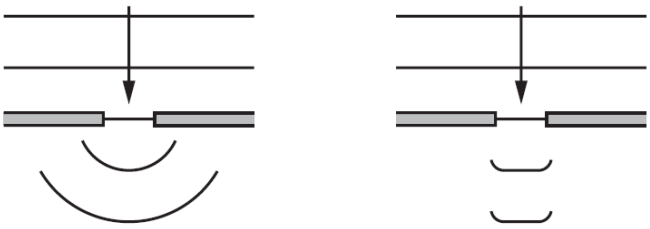


diagram 1 diagram 2

Which row is correct?

	the effect on the wave as it passes through the gap	diagram after it has passed through the gap
A	speed changes	diagram 1 is correct
B	speed changes	diagram 2 is correct
C	speed remains constant	diagram 1 is correct
D	speed remains constant	diagram 2 is correct

6. June/2021/Paper_21,22&23/No.21

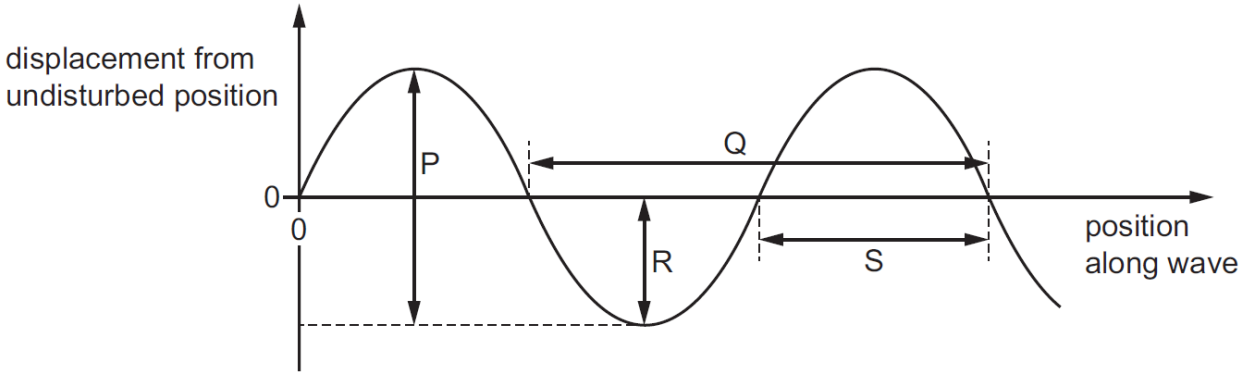
A water wave passes into a region where the wave travels more slowly.

As it passes into the slow region, what happens to the frequency and what happens to the wavelength of the wave?

	frequency	wavelength
A	decreases	remains the same
B	increases	remains the same
C	remains the same	decreases
D	remains the same	increases

7. March/2021/Paper_12/No.21

The diagram shows a wave.



Which dimensions describe the properties of the wave?

A P = amplitude, S = speed

B P = speed, Q = wavelength

C R = amplitude, Q = wavelength

D R = amplitude, S = wavelength

8. June/2021/Paper_43/No.5

(a) Fig. 5.1 shows a wave on the sea approaching a harbour.

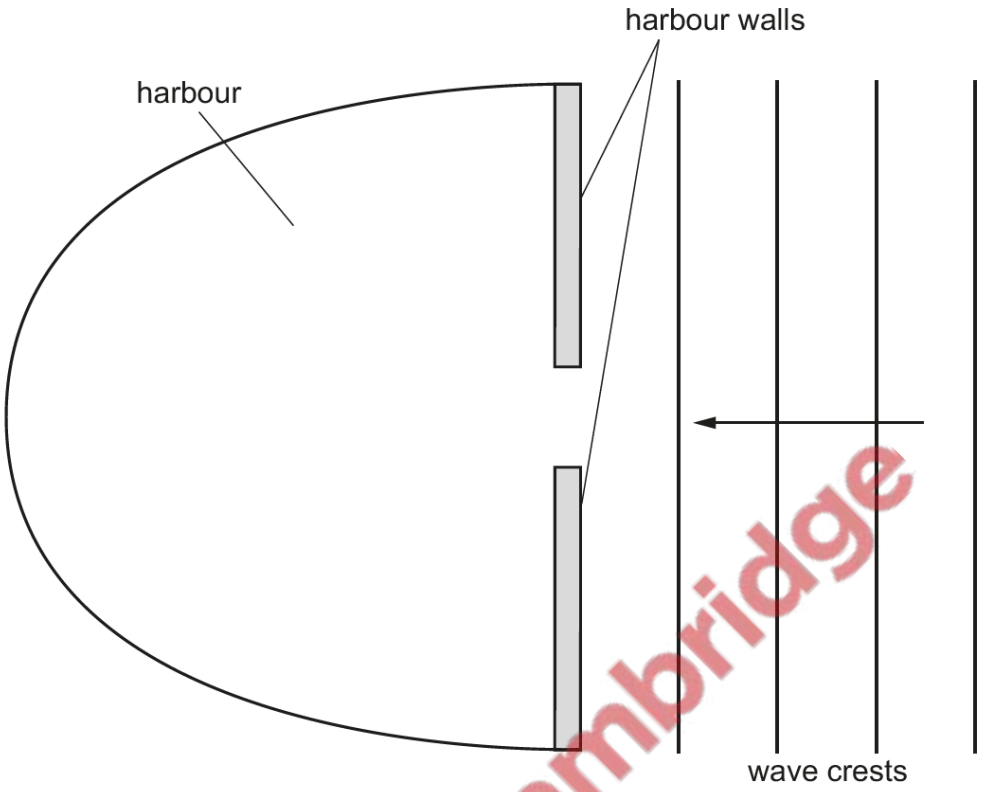


Fig. 5.1

(i) On Fig. 5.1, draw **three** wave crests in the harbour. [2]

(ii) Another harbour has a much wider gap between its walls.

Describe and explain how the pattern of wave crests in this harbour is different from the pattern you have drawn in **(i)**.

description .....

.....

explanation .....

..... [2]

(b) A sound wave of frequency 850 Hz travels through sea water. The speed of sound in sea water is 1500 m/s.

Calculate the wavelength of this sound wave in sea water.

wavelength = ... [2]

[Total: 6]

9. March/2021/Paper_32/No.7

Fig. 7.1 shows a transverse wave.

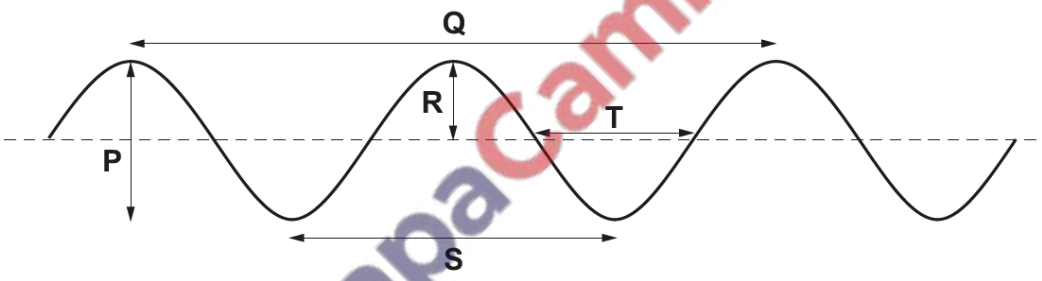


Fig. 7.1

(a) Give the label letter **P**, **Q**, **R**, **S or T** for the arrow which represents:

1. the amplitude of the wave ..... [1]

2. the wavelength of the wave. ..... [1]

(b) A student stands next to a pond and observes water waves on its surface. She counts 12 complete waves passing a point in the pond in a time of 8.0 s.

Calculate the frequency of the water waves.

frequency = ... Hz [3]

(c) Fig. 7.1 shows a transverse wave. Describe the difference between transverse and longitudinal waves.

You may draw a labelled diagram.

.....

.....

.....

..... [3]

[Total: 8]