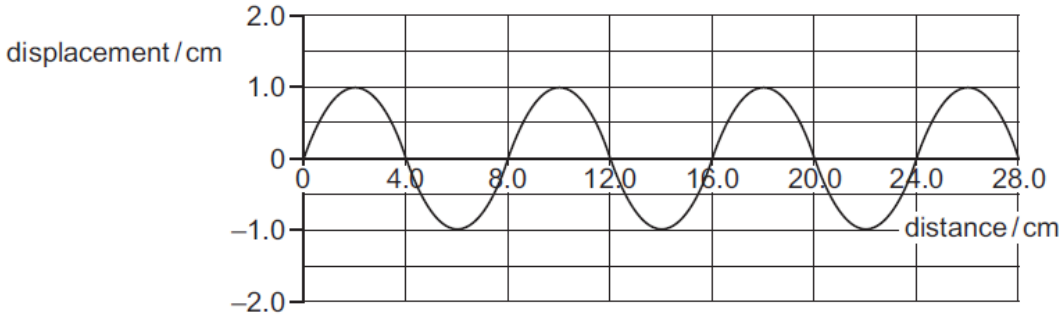
Waves – 2022 June IGCSE 0625

1. June/2022/Paper_11/No.20

The diagram shows a wave.



Which row is correct?

	amplitude of the wave / cm	wavelength of the wave / cm
A	1.0	4.0
B	1.0	8.0
C	2.0	4.0
D	2.0	8.0

2. June/2022/Paper_11/No.21

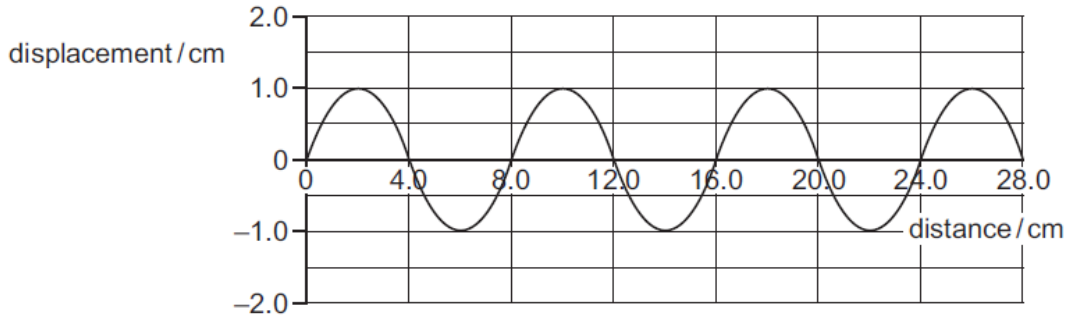
A girl is sitting on a rock in the sea looking at passing waves. She notices that five complete wavelengths pass her in 20 s.

What is the frequency of this wave?

A 0.25 Hz **B** 4.0 Hz **C** 15 Hz **D** 100 Hz

3. June/2022/Paper_12/No.20

The diagram shows a wave.



Which row is correct?

	amplitude of the wave / cm	wavelength of the wave / cm
A	1.0	4.0
B	1.0	8.0
C	2.0	4.0
D	2.0	8.0

4. June/2022/Paper_12/No.21

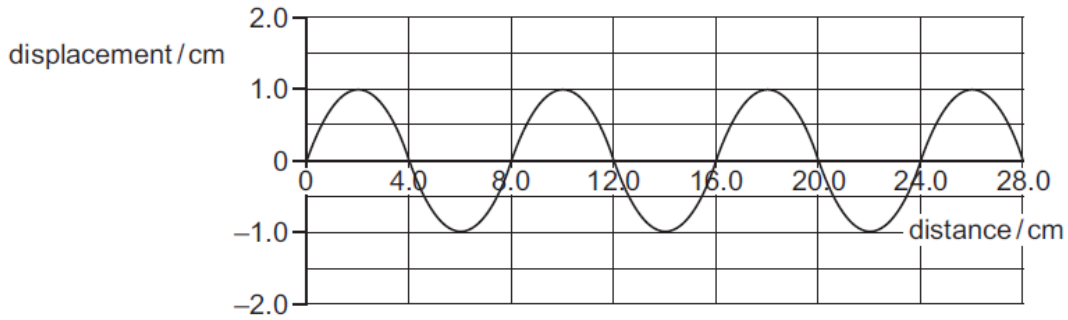
A girl is sitting on a rock in the sea looking at passing waves. She notices that five complete wavelengths pass her in 20 s.

What is the frequency of this wave?

A 0.25 Hz **B** 4.0 Hz **C** 15 Hz **D** 100 Hz

5. June/2022/Paper_13/No.20

The diagram shows a wave.



Which row is correct?

	amplitude of the wave / cm	wavelength of the wave / cm
A	1.0	4.0
B	1.0	8.0
C	2.0	4.0
D	2.0	8.0

6. June/2022/Paper_13/No.21

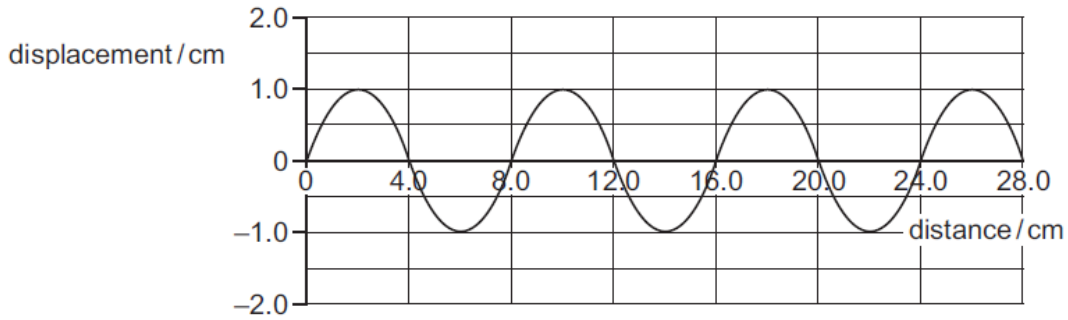
A girl is sitting on a rock in the sea looking at passing waves. She notices that five complete wavelengths pass her in 20 s.

What is the frequency of this wave?

A 0.25 Hz **B** 4.0 Hz **C** 15 Hz **D** 100 Hz

7. June/2022/Paper_21/No.21

The diagram shows a wave.

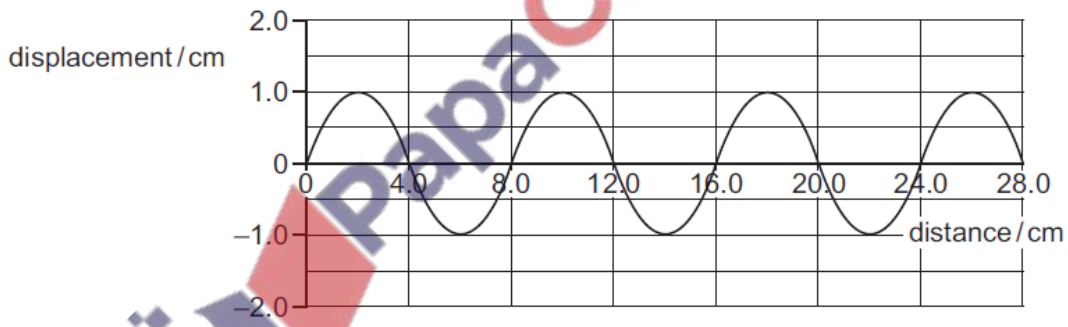


Which row is correct?

	amplitude of the wave / cm	wavelength of the wave / cm
A	1.0	4.0
B	1.0	8.0
C	2.0	4.0
D	2.0	8.0

8. June/2022/Paper_22/No.21

The diagram shows a wave.

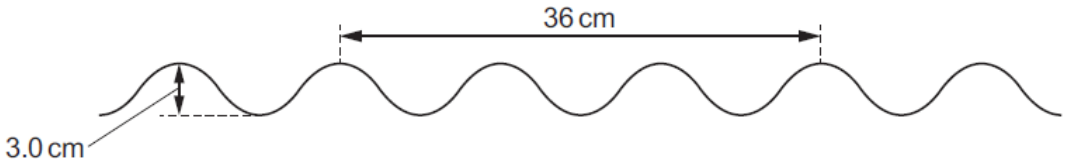


Which row is correct?

	amplitude of the wave / cm	wavelength of the wave / cm
A	1.0	4.0
B	1.0	8.0
C	2.0	4.0
D	2.0	8.0

9. June/2022/Paper_22/No.22

The water wave shown has a frequency of 4.0 Hz.

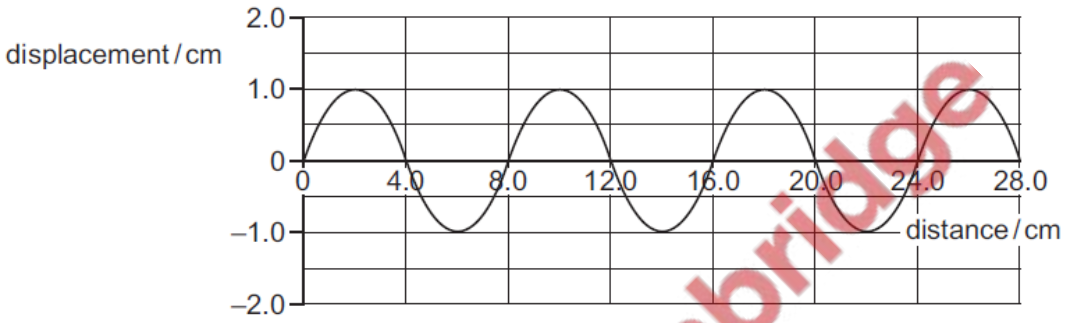


What is the speed of the wave?

A 3.0 cm / s **B** 12 cm / s **C** 48 cm / s **D** 72 cm / s

10. June/2022/Paper_23/No.21

The diagram shows a wave.



Which row is correct?

	amplitude of the wave / cm	wavelength of the wave / cm
A	1.0	4.0
B	1.0	8.0
C	2.0	4.0
D	2.0	8.0

11. June/2022/Paper_23/No.22

The wavelength of a beam of X-rays, travelling through air, is 5.4×10^{-10} m.

What is its frequency?

A 5.6×10^{-17} Hz

B 5.6×10^{11} Hz

C 5.6×10^{17} Hz

D 5.6×10^{18} Hz

12. June/2022/Paper_31/No.7(a, b)

(a) Fig. 7.1 shows the displacement of particles in a water wave.

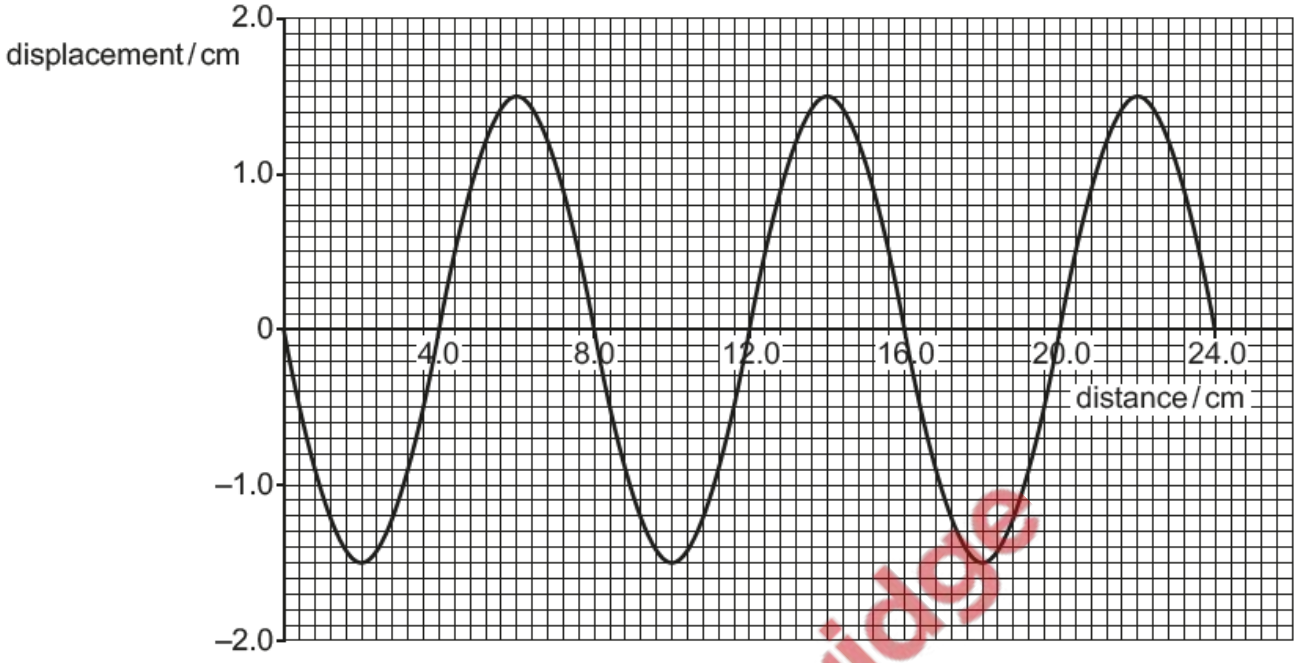


Fig. 7.1

Using the information in Fig. 7.1, determine:

(i) the wavelength of the wave

wavelength = ... cm [1]

(ii) the amplitude of the wave.

amplitude = ... cm [1]

(b) The water waves travel from deep water into shallow water. The water waves have a lower speed in the shallow water.

Fig. 7.2 shows wavefronts for the waves in deep water to the left of the boundary.

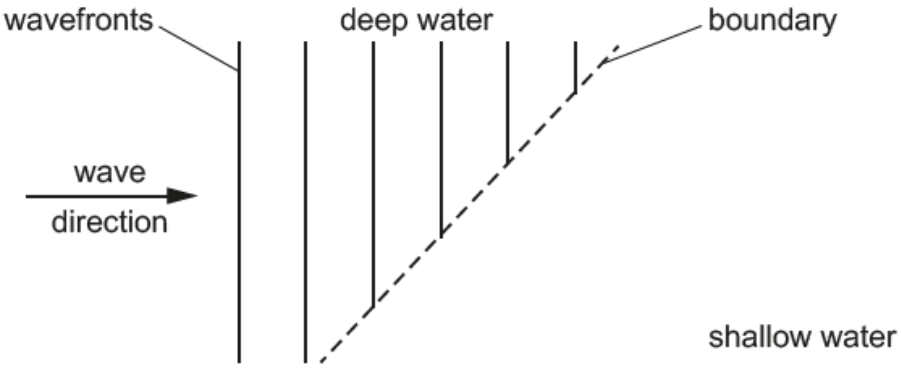


Fig. 7.2

(i) On Fig. 7.2, complete **three** wavefronts for the waves in shallow water to the right of the boundary. [2]

(ii) State the term for the process at the boundary in Fig. 7.2.

..... [1]

13. June/2022/Paper_32/No.6(b, d)

(b) Fig. 6.2 represents a wave on a rope at one instant.

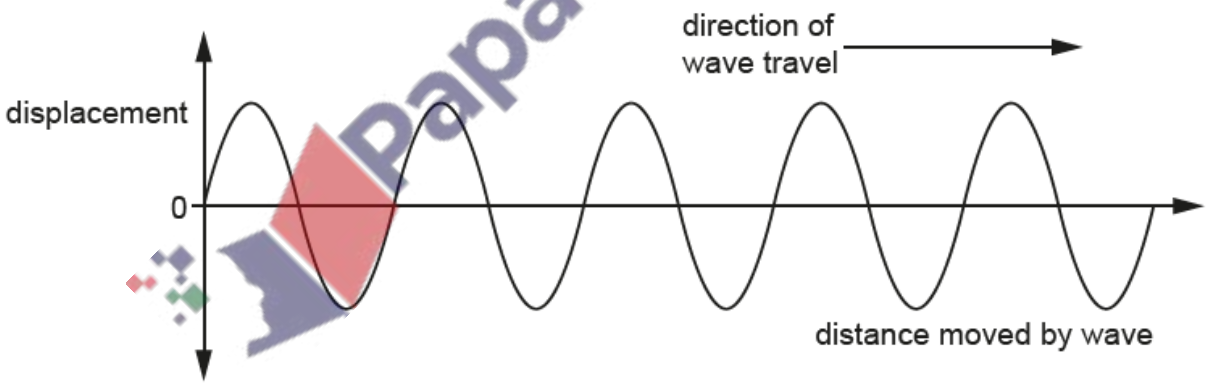


Fig. 6.2

On Fig. 6.2, draw a line representing **one** wavelength. Label the line L. [1]

(d) Describe the difference between the vibrations of longitudinal waves and transverse waves.

.....

.....

..... [2]

14. June/2022/Paper_43/No.6

(a) **(i)** Fig. 6.1 shows crests of a plane water wave approaching a barrier with a gap.

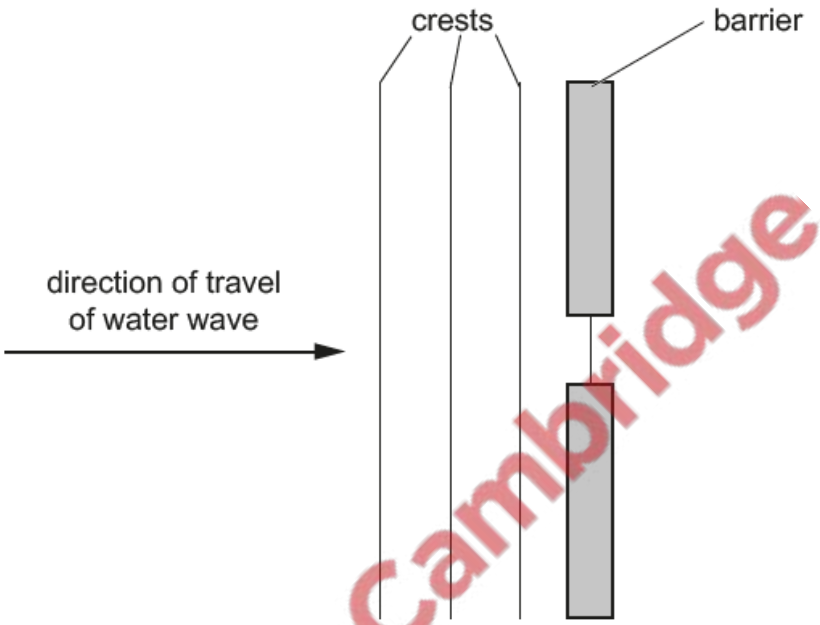


Fig. 6.1

On Fig. 6.1, draw **three** crests of the water wave to the right of the barrier. [2]

(ii) Fig. 6.2 shows crests of a plane water wave in deep water approaching a region of shallow water.

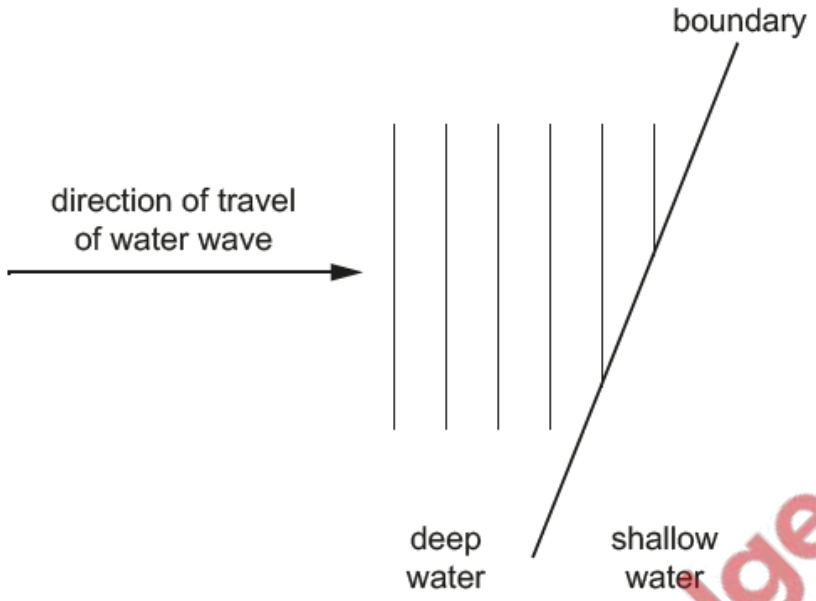


Fig. 6.2

The water wave moves more slowly in shallow water.

On Fig. 6.2, draw:

1. **three** crests of the water wave in the shallow water [2]

2. the direction of travel of the wave in the shallow water. [1]

(b) State **two** ways in which transverse waves differ from longitudinal waves.

1. .....

.....

2. .....

.....

[2]

(c) **(i)** State a typical value of the speed of sound in water.

..... [1]

(ii) Explain why sound travels faster in water than in air.

..... [1]

[Total: 9]