

- 1) What is the speed of a wave with a wavelength of 2m and a frequency of 800Hz?
- 2) What is the wavelength of a sound wave with a frequency of 800Hz? (Speed = 330 m/s)
- 3) A sound wave travels through the sea with a wavelength of 1.5m and a frequency of 1000Hz. What speed is the wave travelling at?
- 4) A sound wave passes through a solid wall. It has a wavelength of 0.1m and travels at 2000m/s. What is its frequency?
- 5) A wave is introduced into a thin wire held at each end. A wave is generated with a frequency of 51.2 HZ and the distance from a crest to its neighbouring trough is 0.125m.
 - a. Draw a diagram of this situation
 - b. Calculate the speed of the wave.
- 6) A fly flaps its wings 255 times in 4s. What is the frequency of its flapping?
- 7) A man is standing on the beach and counts 14 crests between himself and a boat. If a wave takes 6.3 s to reach the shore and the boat is 12m from shore, calculate the frequency and wavelength of the waves.
- 8) A guitar string vibrates 70 times each second. If the sound wave travels at 350 m/s, calculate the wavelength of the sound wave.
- 9) Two boats are anchored 4.0m apart, and vibrate up and down with the waves as they pass returning to their starting position every 3.0s. The waves are set up so that when one boat is on a crest, the other is in a trough.
 - a. Draw a diagram of this situation
 - b. Calculate the speed of the wave.