

Worksheet - Wave Formula

1. This question is about waves on a pond.
 - a. The grass on the pond edge starts moving when the wave hits it - what does this tell you about waves and energy?
 - b. A rubber duck on the pond bobs up and down as the wave passes, but stays in the same place on the pond - what does this tell you about waves and particles?
 - c. If the tops of waves are 5cm apart what is the wavelength
 - d. If 14 waves pass in one second what is the frequency
 - e. If 8 waves pass in two seconds what is the frequency
2. What is the speed of these water waves?
 - a. Wavelength 5cm, frequency 2Hz
 - b. Wavelength 10cm, frequency 4Hz
3. This question is about radio waves. Radio waves are electromagnetic waves.
 - a. What is the speed of a radio wave which has wavelength 1000m and frequency 300kHz?
 - b. What is the speed of all electromagnetic waves?
 - c. A radio wave has wavelength 1m - what must its frequency be?
 - d. Radio waves of frequency 103 million Hz are transmitted by 'Key 103' in Manchester. What is their wavelength?