26 A surveyor's device emits a laser pulse.

What is the time taken for the pulse to travel from the device to a wall 150 m away, where it is reflected, and then return to the device?

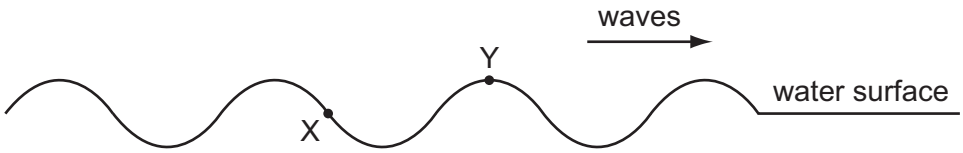
A 0.05 ns **B** 0.10 ns **C** 0.50 μs **D** 1.0 μs

27 The period of an electromagnetic wave is 1.0 ns.

What are the frequency and wavelength of the wave?

	frequency / Hz	wavelength / m
A	1.0	3.0×10^{8}
B	1.0×10^{6}	300
C	1.0×10^{9}	0.30
D	1.0×10^{12}	3.0×10^{-4}

28 X and Y are two points on the surface of water in a ripple tank. A source of waves of constant frequency begins to generate waves which then travel past X and Y, causing them to oscillate.



What is the phase difference between X and Y?

A 45° **B** 135° **C** 180° **D** 270°

Space for working