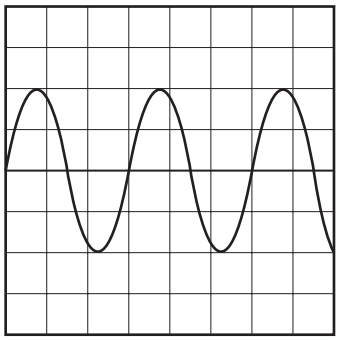
23 A sound wave is displayed on the screen of a cathode-ray oscilloscope, as shown.



The time-base setting is 0.50 ms per division.

What is the frequency of the sound wave?

A 500 Hz **B** 670 Hz **C** 1000 Hz **D** 1300 Hz

24 An observer is situated at the top of a tall tower. An aeroplane emitting sound at a frequency of 1000 Hz approaches the observer at a speed of 165 m s^{-1}.

The speed of sound is 330 m s^{-1}.

What is the frequency of the sound received by the observer?

A 330 Hz **B** 667 Hz **C** 1000 Hz **D** 2000 Hz

25 What is the order of magnitude of the wavelengths of microwaves and X-rays?

	wavelength of microwaves / m	wavelength of X-rays / m
A	10^{-6}	10^{3}
B	10^{-2}	10^{3}
C	10^{-6}	10^{-10}
D	10^{-2}	10^{-10}