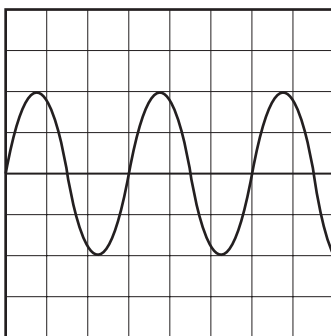


- 23** A sound wave is displayed on the screen of a cathode-ray oscilloscope, as shown.



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}