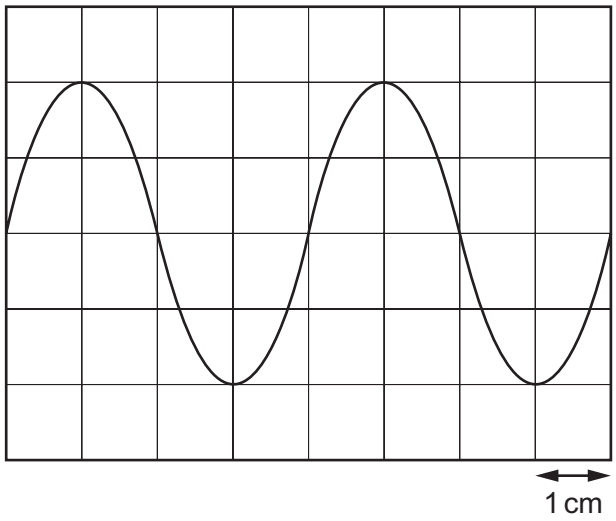
23 A sound wave has a frequency of 2500 Hz and a speed of 1500 m s^{-1}.

What is the shortest distance from a point of maximum pressure in the wave to a point of minimum pressure?

A 0.15 m **B** 0.30 m **C** 0.60 m **D** 1.20 m

24 A sound wave is displayed on the screen of a cathode-ray oscilloscope (c.r.o.) as shown.



The time-base of the c.r.o. is set at 2.5 ms cm^{-1}.

What is the frequency of the sound wave?

A 50 Hz **B** 100 Hz **C** 200 Hz **D** 400 Hz

25 A car travelling in a straight line at a speed of 30 m s^{-1} passes near a stationary observer while sounding its horn. The true frequency of sound from the horn is 400 Hz.

The speed of sound in air is 336 m s^{-1}.

What is the change in the frequency of the sound heard by the observer as the car passes?

A 39 Hz **B** 66 Hz **C** 72 Hz **D** 78 Hz

26 Which list shows electromagnetic waves in order of increasing frequency?

A radio waves → gamma rays → ultraviolet → infra-red

B radio waves → infra-red → ultraviolet → gamma rays

C ultraviolet → gamma rays → radio waves → infra-red

D ultraviolet → infra-red → radio waves → gamma rays