

- 26** In one of the first experiments to demonstrate the Doppler effect, a train was filled with trumpeters all playing a note of frequency 440 Hz. The difference in observed frequency of the note as the train directly approached a stationary observer was 22 Hz. The speed of sound was 340 m s^{-1} .

At which speed was the train moving?

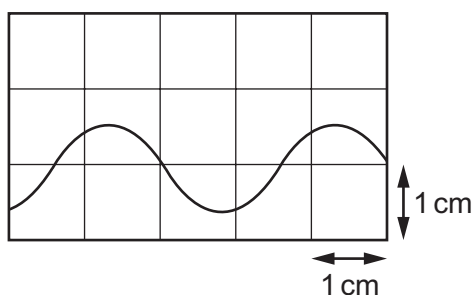
- A** 15.4 m s^{-1} **B** 16.2 m s^{-1} **C** 17.0 m s^{-1} **D** 17.9 m s^{-1}

- 27** The electromagnetic spectrum consists of waves with different wavelengths.

Which row correctly identifies regions of the electromagnetic spectrum?

	10^{-10} m	10^{-8} m	10^{-5} m	10^{-2} m
A	microwaves	X-rays	ultraviolet	infrared
B	infrared	microwaves	X-rays	ultraviolet
C	microwaves	infrared	ultraviolet	X-rays
D	X-rays	ultraviolet	infrared	microwaves

- 28** A cathode-ray oscilloscope (CRO) is used to display the trace from a sound wave. The time-base is set at $5 \mu\text{s mm}^{-1}$.



What is the frequency of the sound wave?

- A** 6.7 Hz **B** 67 Hz **C** 6.7 kHz **D** 67 kHz