23 Which statement about progressive transverse and longitudinal waves is correct?

A Particles in a transverse wave have fixed equilibrium positions but those in longitudinal waves do not.

B Transverse waves can be polarised but longitudinal waves cannot.

C Transverse waves transfer energy but longitudinal waves do not.

D Two-source interference can be demonstrated with transverse waves but not with longitudinal waves.

24 A miniature loudspeaker, initially at rest, falls vertically from a window in a high building. When the speaker has fallen a distance of 10.0 m, it emits a very short pulse of sound of constant frequency 256 Hz in all directions. The pulse of sound, travelling at a speed of 330 m s^{-1}, is heard by a person leaning out of the window.

Air resistance is negligible.

What is the frequency of the pulse of sound heard by the person?

A 246 Hz **B** 249 Hz **C** 267 Hz **D** 313 Hz

25 Two electromagnetic waves have wavelengths of 5.0×10^{-7} m and 5.0×10^{-2} m in a vacuum.

Which row identifies the regions of the electromagnetic spectrum to which the waves belong?

	wavelength 5.0×10^{-7} m	wavelength 5.0×10^{-2} m
A	ultraviolet	infrared
B	visible	microwave
C	ultraviolet	microwave
D	visible	infrared