

- 28 Two loudspeakers are placed near to each other and facing in the same direction.

A microphone connected to an oscilloscope is moved along a line some distance away from the loudspeakers, as shown.



Which statement about the waves emitted by the loudspeakers is **not** a necessary condition for the microphone to detect a fixed point along the line where there is no sound?

- A The waves must be emitted in phase.
  - B The waves must be emitted with a similar amplitude.
  - C The waves must have the same frequency.
  - D The waves must have the same wavelength.
- 29 A parallel beam of white light passes through a diffraction grating. Orange light of wavelength 600 nm in the fourth-order diffraction maximum coincides with blue light in the fifth-order diffraction maximum.

What is the wavelength of the blue light?

- A 450 nm      B 480 nm      C 500 nm      D 750 nm