

- 29** Noise reduction headphones actively produce their own sound waves in order to cancel out external sound waves.

A microphone in the headphones receives waves of one frequency. A loudspeaker in the headphones then produces a wave of that frequency but of a different phase.

What is the phase difference between the external sound wave and the wave produced by the loudspeaker in the headphones?

A 90°

B 180°

C 270°

D 360°

Space for working