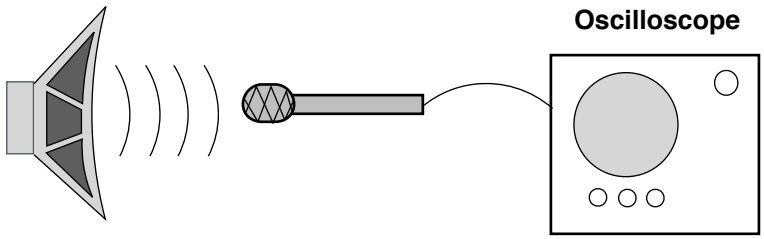
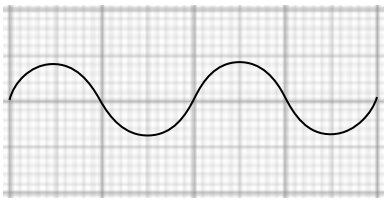
Do not write outside the box

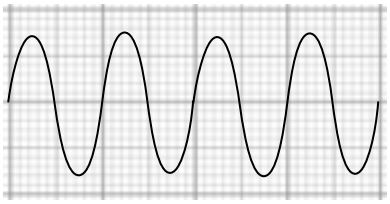
1 A microphone is set up to record and display the sound of two single notes made by a loudspeaker. The sounds are displayed on an oscilloscope which shows the sounds as transverse waves.



Oscilloscope trace 1



Oscilloscope trace 2



1 (a) (i) Describe and explain the difference between the two sounds made.

Use the two oscilloscope traces to help you. **[4 marks]**

Trace 1 shows a quieter sound or has a lower volume [1]

because it has a smaller amplitude. [1]

It (trace 1 sound) has a lower pitch [1]

because it has a longer wavelength or lower frequency or the waves are further apart. [1]

You can say the opposite about oscilloscope trace 2, e.g. Trace 2 shows a louder sound, etc.

1 (a) (ii) Sounds waves are described as longitudinal.

How is a longitudinal wave produced? **[3 marks]**

Vibration or oscillation [1]

is parallel to [1]

Direction of energy transfer [1]

Important to talk in terms of energy transfer and not the direction of the wave. AQA are fussy about that.

(Total 7 marks)

End