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GCSE Physics B (Twenty First Century Science)

J259/01 Breadth in Physics (Foundation Tier)

Question Set 20

1 Alex plays the violin. The violin has four strings. The strings are 32.5 cm in length, as shown in **Fig. 1.1**.

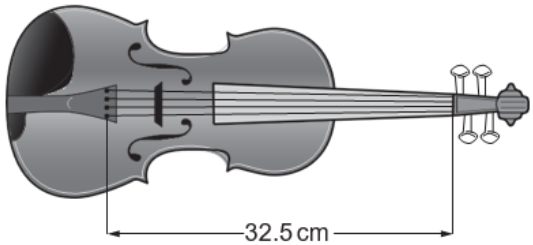

Fig. 1.1

When Alex plays the violin, waves pass along the strings. **Fig. 1.2** shows a wave on one of the strings.

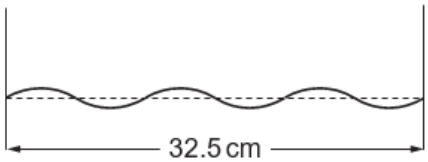

Fig. 1.2

(a) Calculate the wavelength of the wave shown in **Fig 1.2**.

3 waves = 32.5cm so λ = 32.5/ 3= 10.8cm

Wavelength = 10.8 .....cm **[2]**

(b) **(i)** Explain how **Fig. 1.2** shows that the wave is a transverse wave.

Oscillations are perpendicular to the direction of travel **[2]**

(ii) Explain how the sound waves produced by the violin are different to the waves on the string. **[2]**

Sound waves are longitudinal whereas waves on the string are transverse

Total Marks for Question Set 20: 6

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