



A Level Physics A

H556/02 Exploring physics

Question Set 24

- 1 (a) Fig. 17.1 shows the variation with distance of the displacement of a **stationary** wave at time $t = 0$.

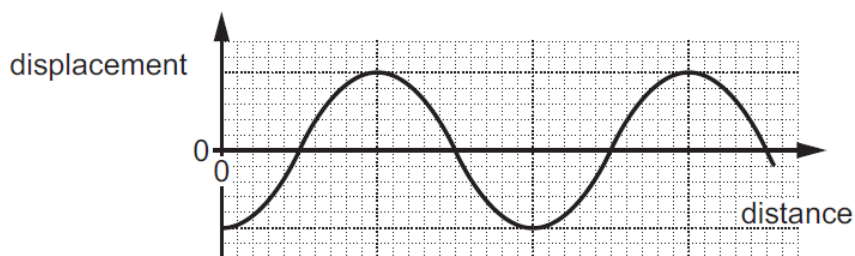


Fig. 17.1

The period of the wave is T .

- (i) On Fig. 17.1, sketch a graph to show the variation of the displacement at time $t = \frac{T}{2}$. [1]
- (ii) On Fig. 17.1, show the positions of **all** the nodes. Label each node **N**. [1]

- (b) Stationary sound waves are formed in a tube closed at one end.

Fig. 17.2 shows three stationary wave patterns formed in the air column of the tube.

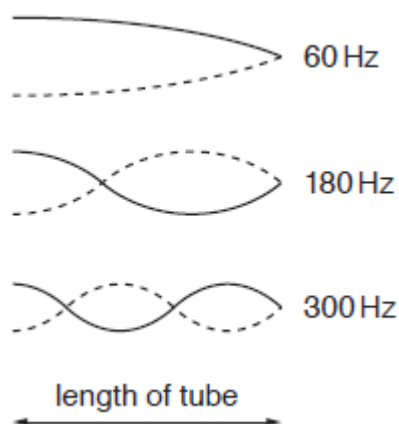


Fig. 17.2

The frequency f of the oscillations for each stationary wave is shown in Fig. 17.2.

Use Fig. 17.2 to explain how the frequency f of the sound wave depends on the wavelength λ .

[3]

Total Marks for Question Set 24: 5

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