Harmonics 5

- Waves are made on a string of length L.
- The waves have speed V.

① Determine the wavelength and frequency of the first 6 harmonics in terms of L and V.

Harmonic	wavelength	frequency
1		
2		
3		
4		
5		
6		

② Using the pattern you determined in this table, determine a formula for the frequency of the nth harmonic f_n in terms of n and the fundamental frequency f_1.

Harmonics 5 (part 2)

- Waves are made inside a tube with one end open and one end closed.
- The tube has length L and the waves have speed v.

(3) Determine the wavelength and the frequency of the first 6 harmonics in terms of L and v.

Harmonic	Wavelength	Frequency
1		
2		
3		
4		
5		
6		

(4) Using the pattern you determined in this table, determine a formula for the frequency of the nth harmonic f_n in terms of n and the fundamental frequency f_1.