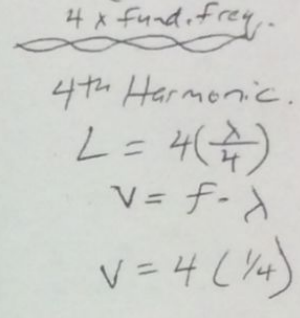
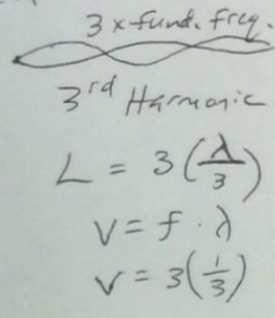
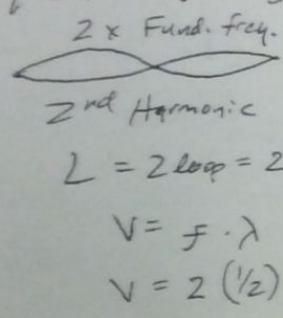
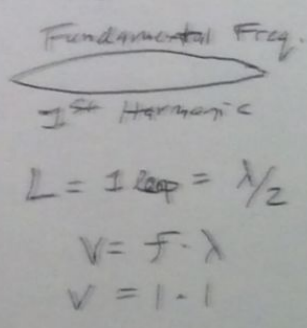


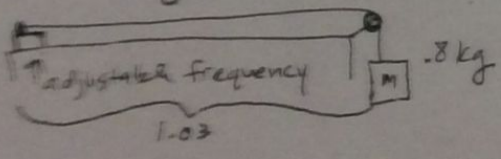
Springs and Pendulums have only one frequency because they leave one period. However, a string can have an infinite number of frequencies. Speed remains constant (unless medium changes)



3) If 2 successive overtones of a guitar string are 784 Hz and 980 Hz, what is the fundamental frequency of the string?

6) A guitar string vibrates at 82.4 Hz (note E) when unfingered. At what frequency will it vibrate if it is fingered at $\frac{1}{4}$ the way down from one end (so $\frac{1}{4}$ of the string stops vibrating)?

7) The 1.35 meter long string is 4g. Find the frequency needed for the string to vibrate in (a) 1 loop (b) 2 loops (c) 3 loops.



d) If frequency is the same as your solution to part (a), but m is changed such that there are 2 loops, what is m ?