**Standing Wave notes** 3/19/15



A standing wave is a wave that is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_on each end and travels through



\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_points called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.



The moving parts of the waves are called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.



Example of Standing waves: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.



<https://cobbk12.blackboard.com/webapps/blackboard/content/listContent.jsp?course_id=_19807_1&content_id=_1004847_1&mode=reset>

<https://www.youtube.com/watch?v=RNt8d6vJj8c>

**Drawing Harmonics:**

1st Harmonic:



2nd Harmonic:



3rd Harmonic:



4th Harmonic:



5th Harmonic:



Formula:



L = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ measured in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



H =\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_---- just a number



λ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ measured in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



Example:

A guitar string is 0.8 m long and is vibrating as the 5th harmonic. It completes 100 cycles in 0.25 seconds. What is the…..

a. frequency?

Formula:

Plug in numbers:

Solve:

b. period?

Formula:

Plug in numbers:

Solve:

c. wavelength?

Formula:

Plug in numbers:

Solve:

d. speed?

Formula:

Plug in numbers:

Solve: