PHYS 2C

Discussion Section – 1/22

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Before we Begin:

- Try and **sit next to a student you don't know**
- Introduce yourselves and find out where the other student is from

Today: Lightning Review and 2 Problems (if time permits)

General things to practice for Quizzes and Exams

- Drawing free-body problem

- Analyzing Units (Dimensional Analysis)

- Understanding and Manipulating equations
  - Making any variable the subject of the equation
  - Making appropriate substitutions
    - For e.g. $m \Longleftrightarrow \rho \cdot v, \omega \Longleftrightarrow 2\pi f \Longleftrightarrow \frac{2\pi}{T}$

- Make a list of all Formula (and short note on when it applies) => Cheat Sheet!

Discussion Problem 1

Intensity of Sound – decibels

Points A and B are located at 4 meters and 9 meters from a sound source. If I_A and I_B are intensities at point A and point B respectively, then the ratio $I_A : I_B$ =

a) 1:1

b) 4:9

c) 9:4

d) 81:16

e) 64:729

Discussion Problem 1 – Solution

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Discussion Problem 2

Standing Waves

The wavelength of the 1st overtone (m=2) of a string with both ends fixed is 60cm.

If the linear density of the string is 23g/m and the tension in the string is 20.7N, calculate the frequency of the 2nd overtone.

(Note: 1st Overtone ⇔ m=1)

Discussion Problem 2 - Solution

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If the linear density of the string is 23g/m and the tension in the string is 20.7N, calculate the frequency of the 2nd overtone.

(Note: 1st Overtone ⇎ m=1)

The frequency of the 2nd overtone is **75 Hz**