

Exam #2 Study Sheet

Physics 1320

Music & Physics

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Prof. Tunks & Olness

IMPORTANT: Review Term Sheets:

Harmonic series

Musical Ratios/Intervals: 5th, 4th, Major/Minor 3rd, 2nd

Middle C=C₄, and US conventions

Intensity vs. distance: $1/R^2$. Compute dB.

How to add sounds: same/different frequency

Formant region.

Subjective tones: Difference tones.

Loudness difference Limen: at 1000Hz, about 0.4 dB

Frequency difference Limen: at 30Hz, about 3Hz. At 1000Hz, about 5Hz.

Pitch vs. loudness

Periodicity pitch: 400Hz + 500Hz => you hear 100Hz.

phon: Loudness level

sone: Loudness

sound pressure level: dB

(sound) intensity level: dB

Masking

Critical Band: about 1.2mm. => 90Hz at 200Hz, and 900Hz at 5000Hz

Scales: {P,J,M,E}