



# ? Questions: "Acoustic Knowledge" - English 2

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F + A

1. What is the period  $T$  of a tone of  $f = 1000$  Hz?
2. What is a so-called "frequency-independent phase shift of  $\Delta \varphi = 180^\circ$ " in one channel?
3. What is the difference of a RMS value of a sinusoidal signal and the maximum value (peak)?
4. What is the definition of the RMS value?
5. How does the RMS value of a square wave (1:1 timing) differ from its peak value?
6. Which of these values (RMS or peak value) is usually meant when we speak in the acoustics of the sound pressure and the particle velocity?
7. What is the wavelength  $\lambda$  of the frequency  $f = 1000$  Hz for the speed of sound  $c = 343$  m/s at  $20^\circ\text{C}$ ?
8. What is the minimum time difference  $\Delta t$  that is required for a 1 kHz sine wave to achieve a complete extinction when mixing signals with the same level.?
9. In a living room, the longest side is 6 m long. At what frequency  $f_0$  lies the lowest resonance frequency of the room?
10. What is the sound radiation of lower frequencies than the lowest resonance frequency of the room?
11. Will Tonmeisters (art and music) have to do in their work with the concepts learned in training, such as: loudness (volume) in "phons", or "tonheit" in "mel"? Do you know of practical applications?
12. What number of the overtones is the fourth harmonic?
13. Which harmonic distortions sound musically enjoyable, the even or the odd harmonics?
14. Is the density of the harmonics (Teiltondichte) bigger with large (low sounding) instruments or bigger with small (high sounding) instruments? (With justification).