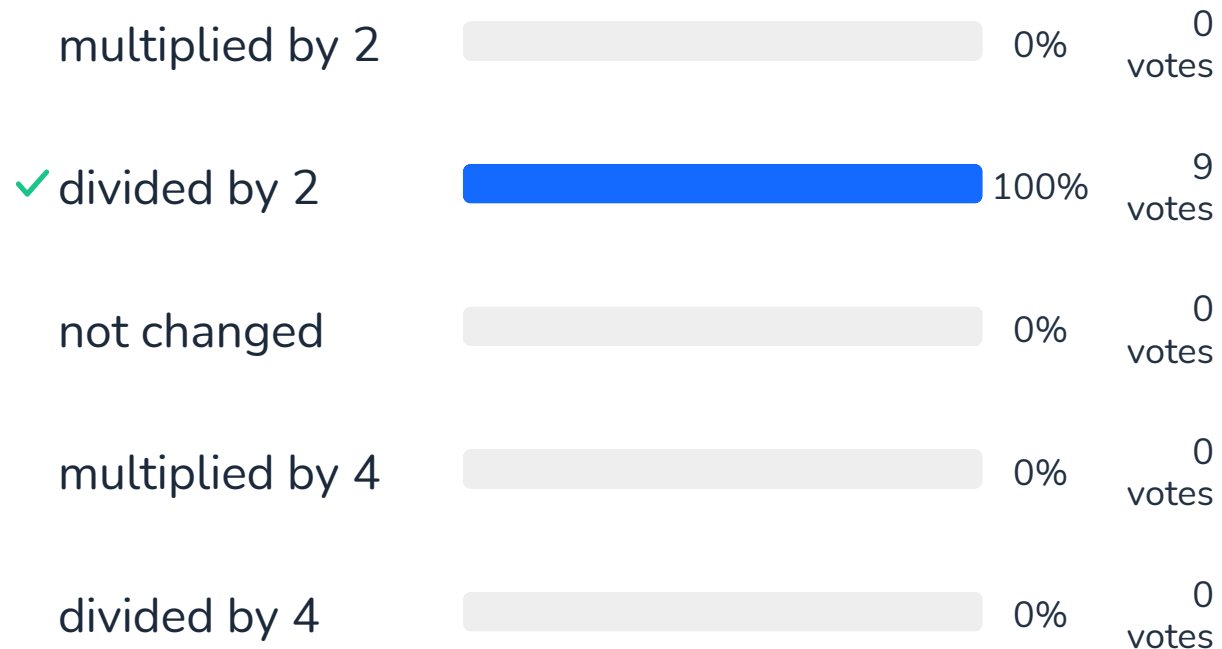


DOS2021: Vibration damping

Number of participants: 14

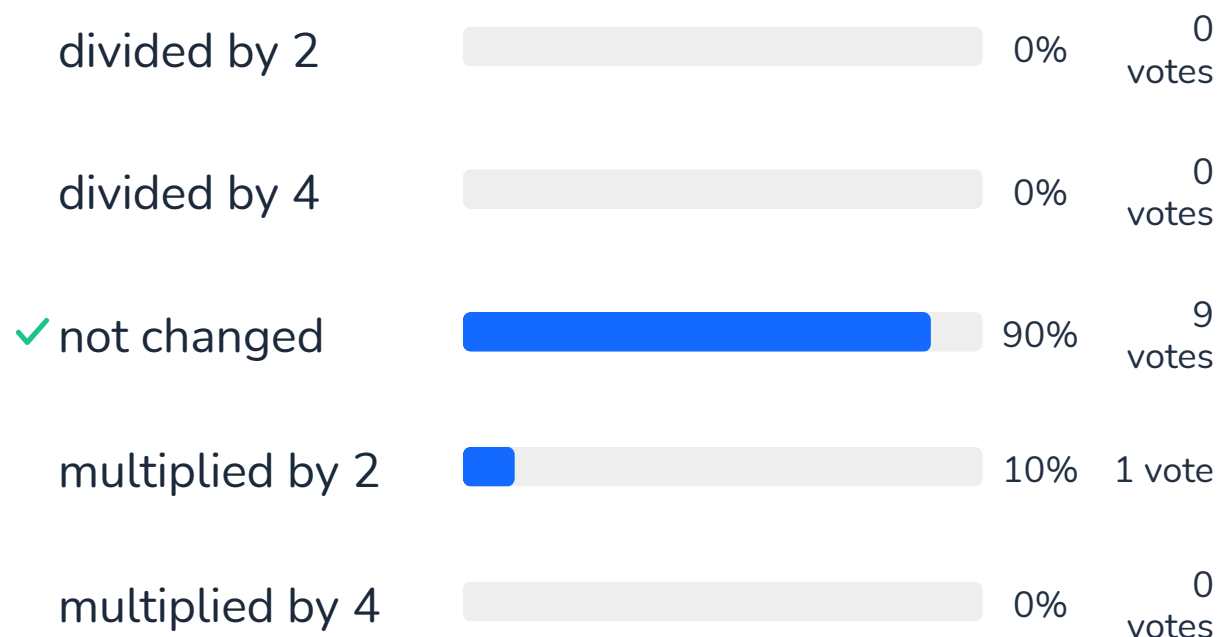
1

If the damping in a structure is doubled, the level of vibration when it is excited at resonance is



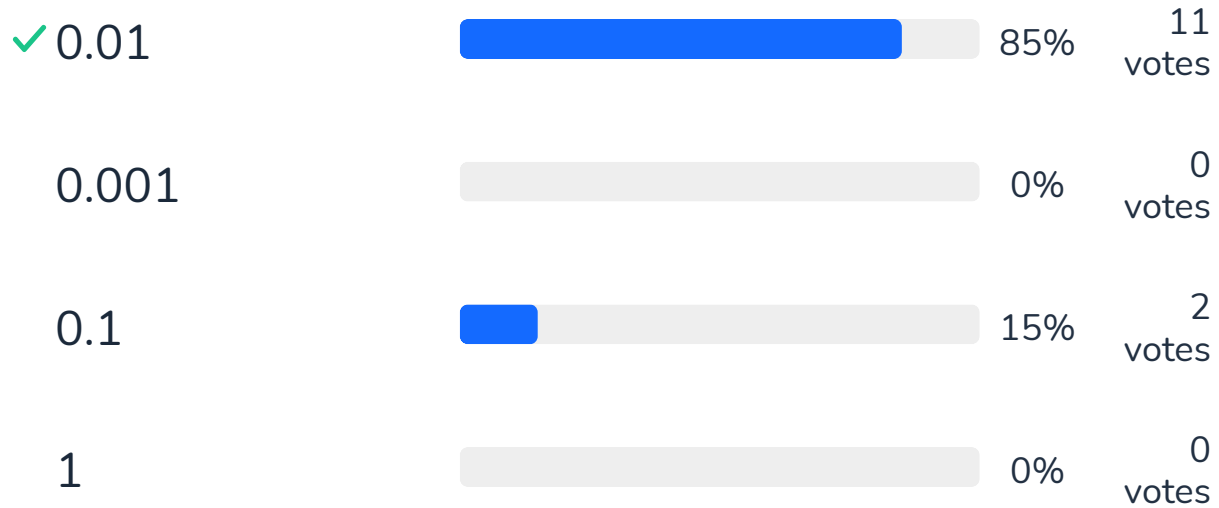
2

If the damping of a structure is doubled, the level of vibrations when the structured is excited away from the resonances is



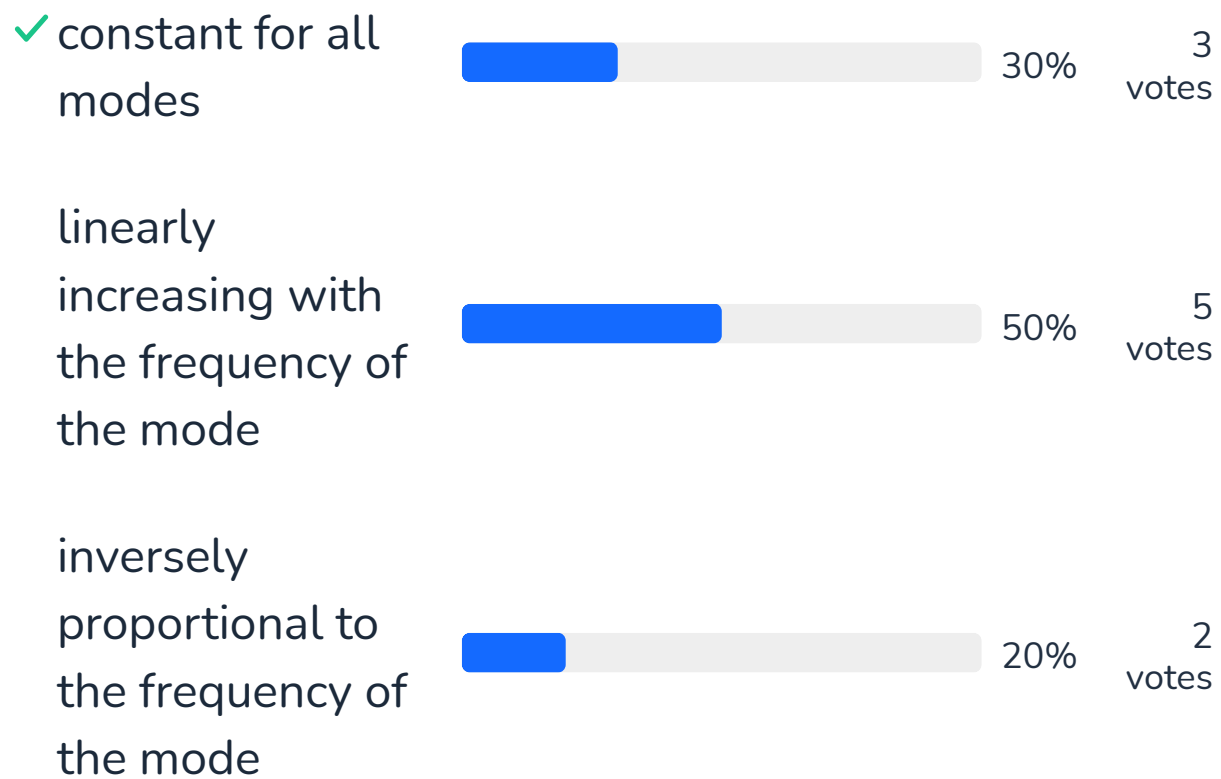
3

In civil and mechanical engineering, a typical value of global damping factors for structures is



4

When using a loss factor for the materials to represent damping in a structure made of a single material, the damping coefficient is



5

Cite two methods which allow to determine the damping of the first mode of a structure. Which one can be used to estimate the damping of higher modes as well ?

Logarithmic decrement method and half-power bandwidth, the second one estimate damping on higher modes

Logarithmic decrement method
Half lower bandwidth

Logarithmic decrement method, half power bandwidth, half power bandwidth

Logarithmic decrement method

For higher mode, halfpower bandwidth

Half power bandwidth method in time domain
Logarithmic in freq domain

Logarithmic decrement method

6

What is the difference between constrained and unconstrained layer damping treatment ?

Nil

7

Explain why the grey line
crosses the black curve
exactly at $w/w_n=1$?

Resonance

Resonance

Because $\psi_s \text{ eq} = \psi_s$

Cyv

