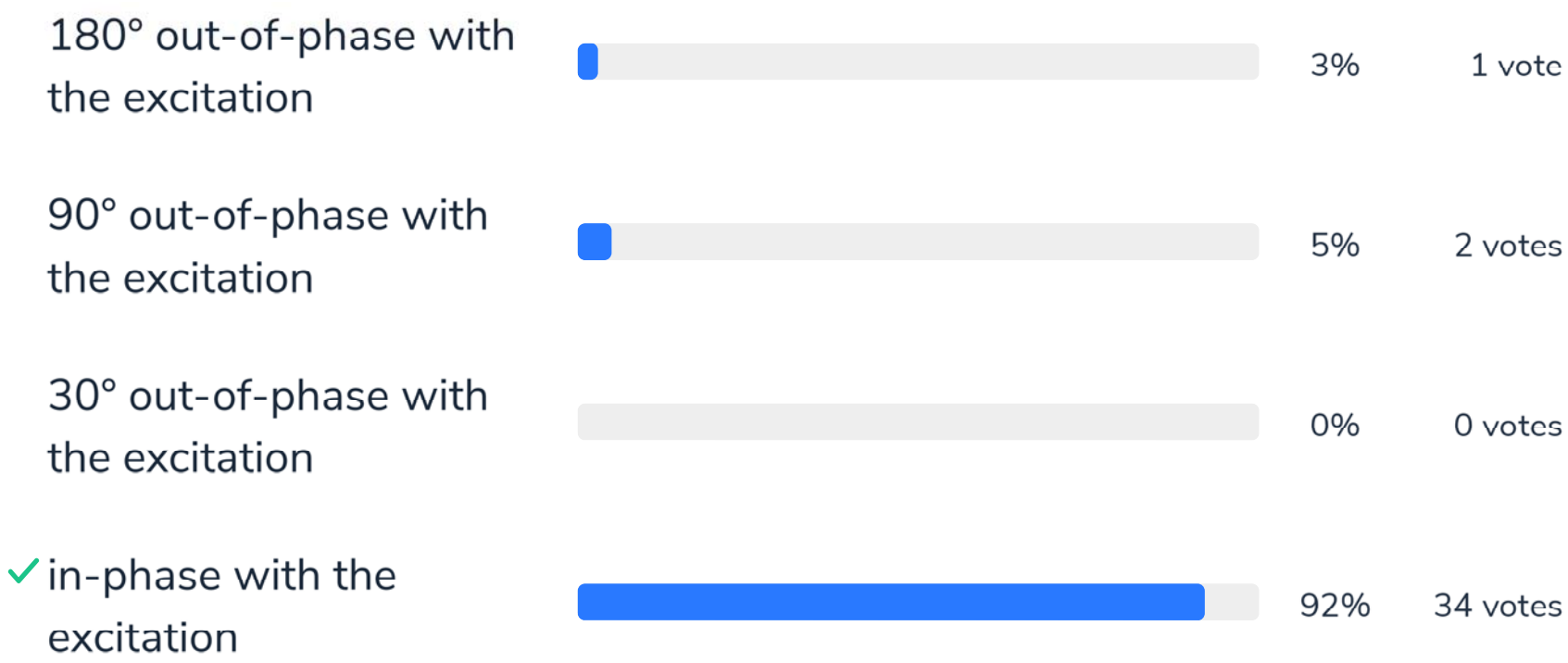
VIB2019 - 1DOF

Number of participants: 50

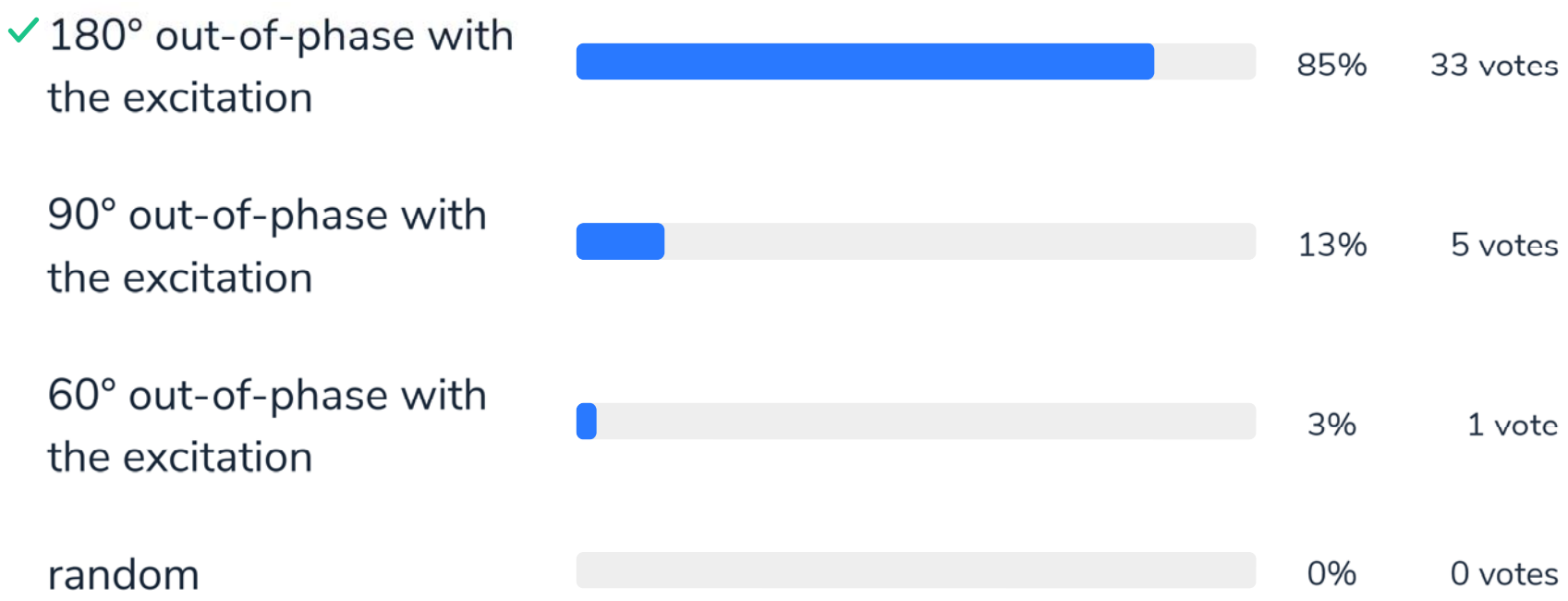
1

When excited at a frequency below the natural frequency of a mass-spring system, the motion of the mass is



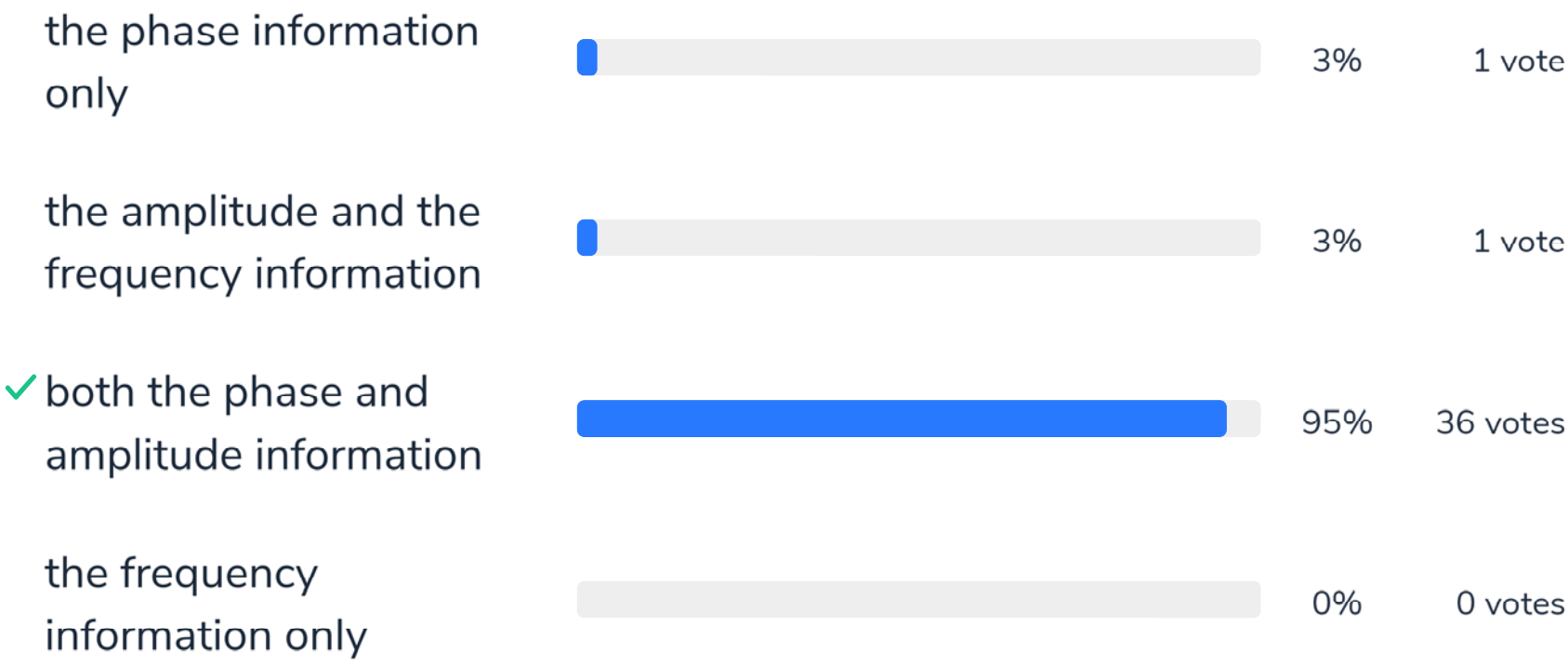
2

When excited at a frequency above the natural frequency of a mass-spring system, the motion of the mass is



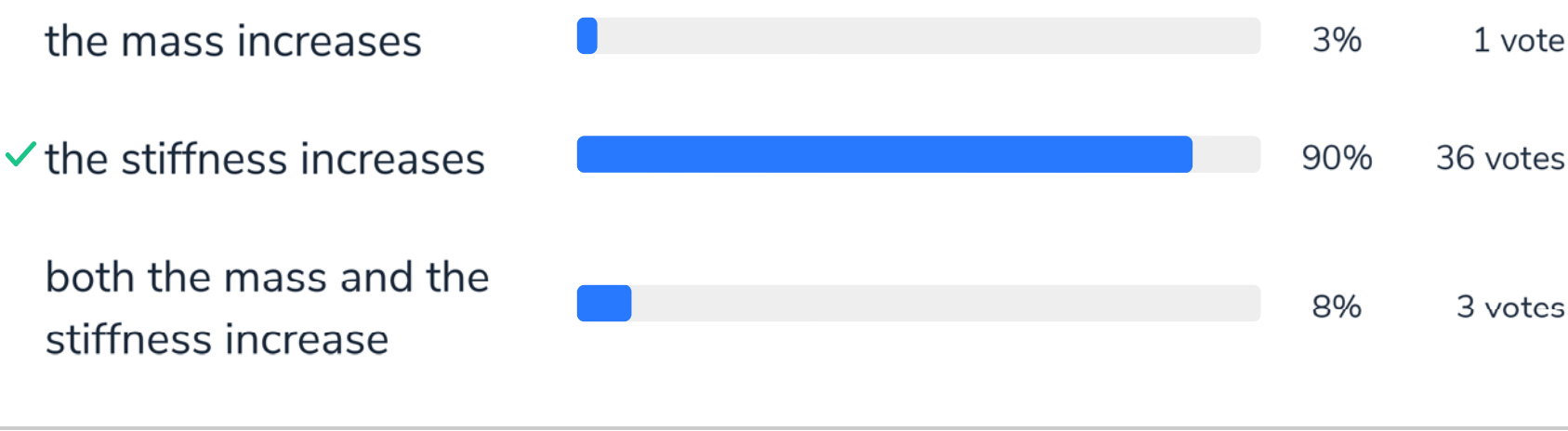
3

When describing a harmonic motion, the complex amplitude vector contains



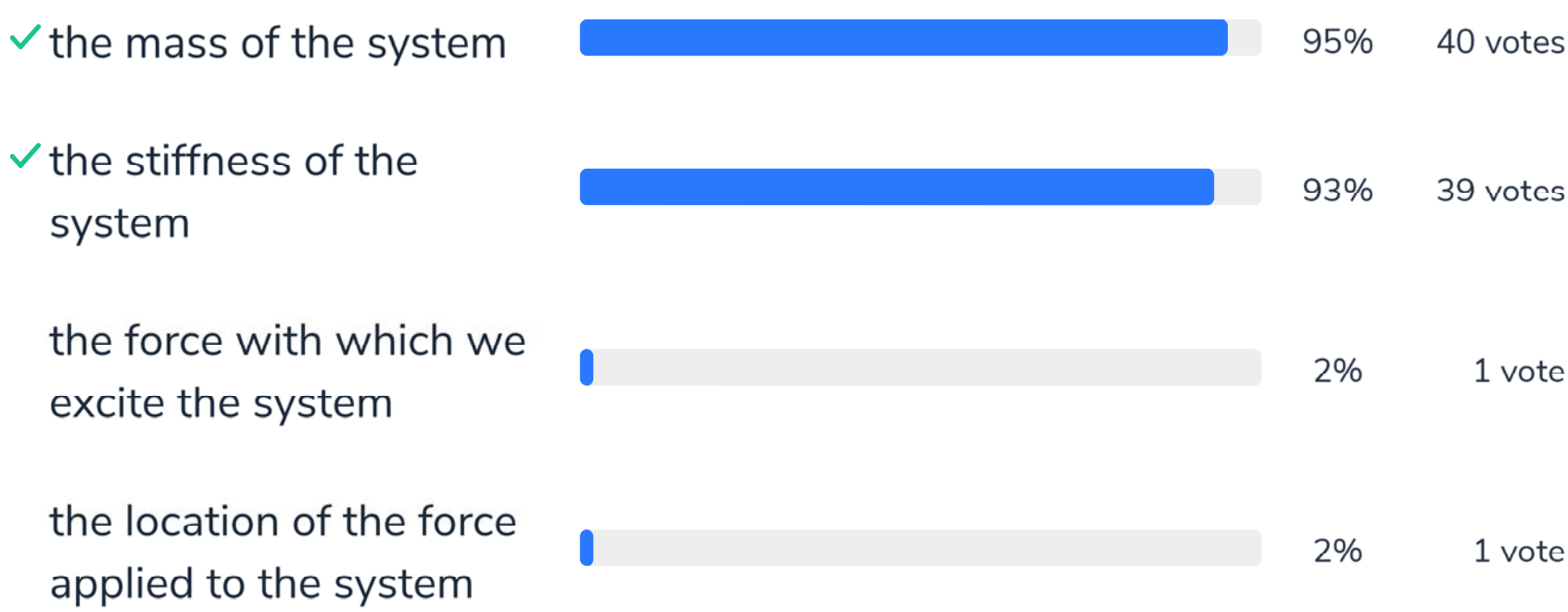
4

The natural frequency of a mass-spring system increases when



5

The natural frequency of a mass-spring system depends on



6

For a undamped 1DOF system, when excited at its natural frequency, the amplitude of the motion is

in phase with the excitation force	0%	0 votes
180° out-of-phase with the excitation force	8%	3 votes
✓ infinite	92%	33 votes

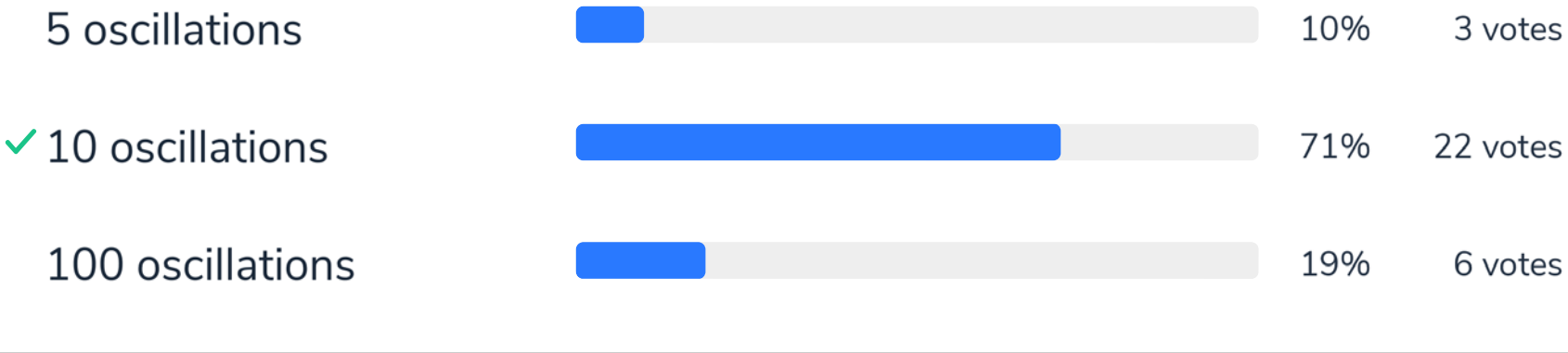
7

It is possible to break a wine glass with your voice by

	exciting it at very high frequency	0%	0 votes
	exciting it at low frequency	0%	0 votes
✓	exciting it at one of its natural frequencies	100%	42 votes

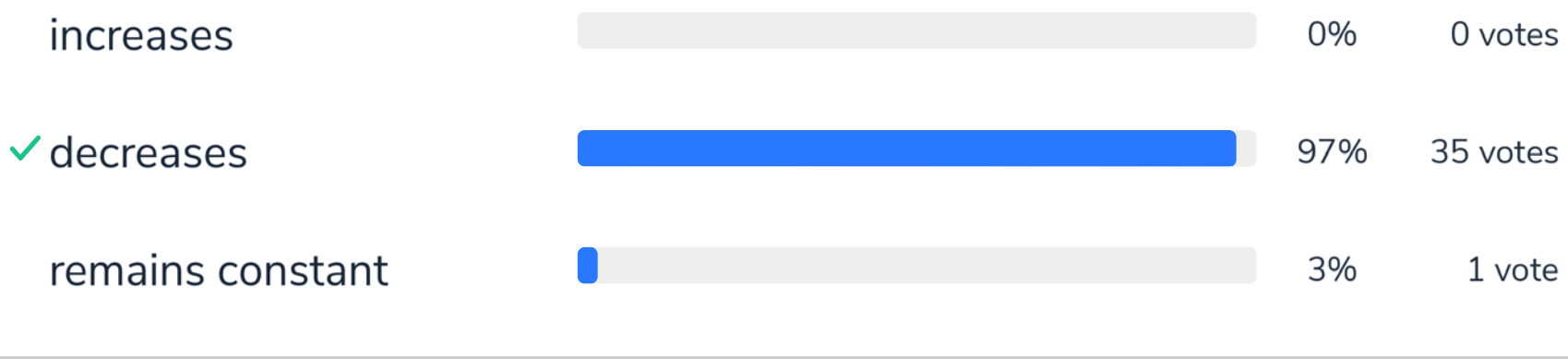
8

When the damping coefficient of a one dof system is 1% and considering a free vibration, the amplitude decreases of a factor 0.5 after



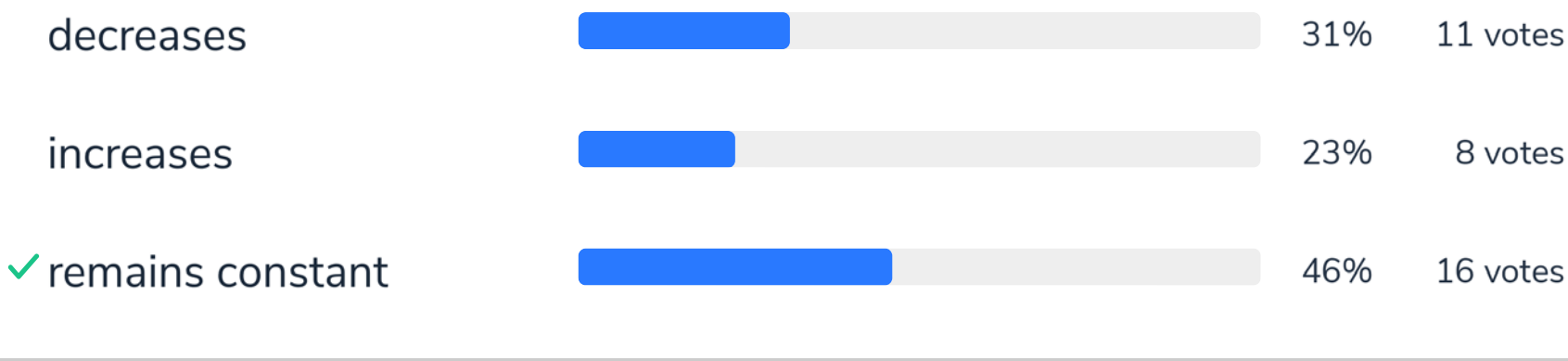
9

When damping increases in a one dof system, the amplitude of vibration when excited near its natural frequency



10

When damping increases in a one dof system, the amplitude of vibration when excited far from its natural frequency



11

Where is the resonance phenomenon on this diagram ?