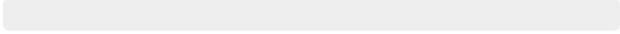
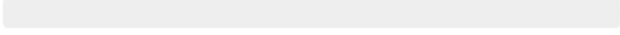
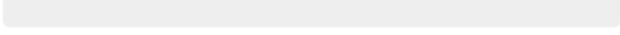



DOS2018-1DOF

Number of participants: 24


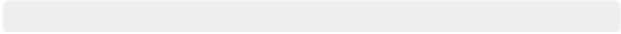
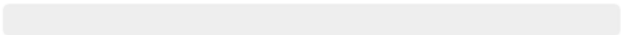
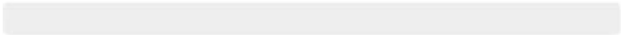
1

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

180° out-of-phase with the excitation		0%
90° out-of-phase with the excitation		0%
30° out-of-phase with the excitation		0%
✓ in-phase with the excitation		100%

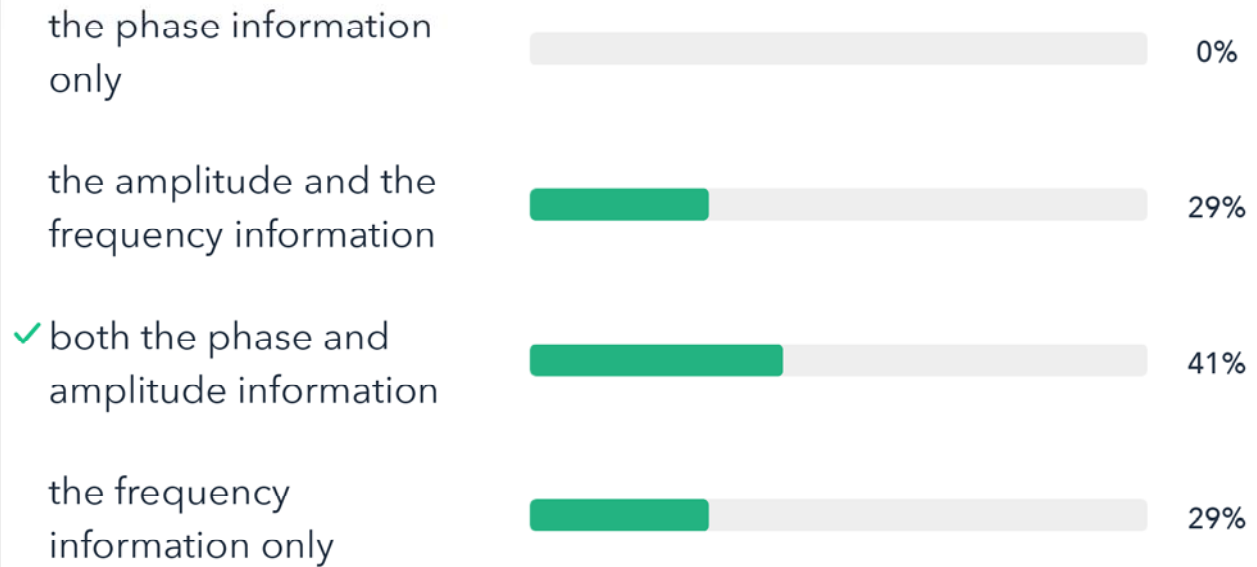
2

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

✓ 180° out-of-phase with the excitation		100%	1
90° out-of-phase with the excitation		0%	
60° out-of-phase with the excitation		0%	
random		0%	

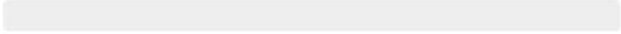

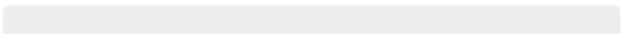
3

When describing a harmonic motion, the complex amplitude vector contains





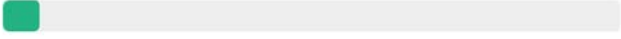

4

The natural frequency of a mass-spring system increases when

the mass increases		0%	
✓ the stiffness increases		100%	1
both the mass and the stiffness increase		0%	

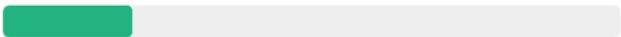
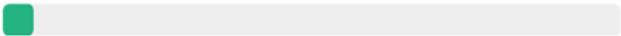

5

The natural frequency of a mass-spring system depends on

✓ the mass of the system		88%	1
✓ the stiffness of the system		100%	1
the force with which we excite the system		6%	
the location of the force applied to the system		0%	

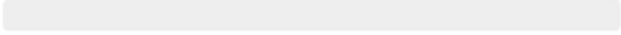
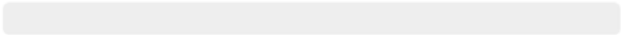

6

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

in phase with the excitation force		21%	
180° out-of-phase with the excitation force		5%	
✓ infinite		74%	1

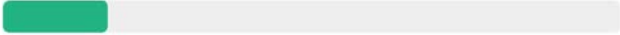


7

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

exciting it at very high frequency		0%	
exciting it at low frequency		0%	
✓ exciting it at one of its natural frequencies		100%	1


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

5 oscillations		17%
✓ 10 oscillations		75%
100 oscillations		8%

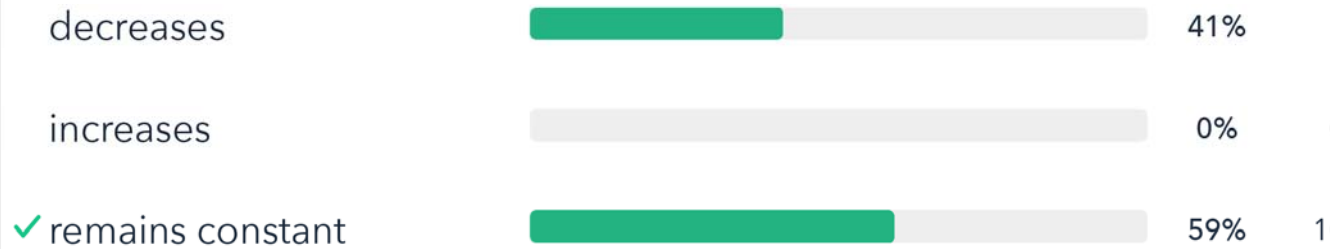
9

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

increases		0%	
✓ decreases		100%	1
remains constant		0%	

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 ?

