

Standing Waves on a String Worksheet

revised April 15, 2004

Your Name: _____ Signature: _____

Lab partner(s): _____

Course & Section: _____ Station # _____ Date: _____

String mass $M_{\text{string}} =$ _____ \pm _____

String length $L =$ _____ \pm _____

Discussion of reasoning for appropriate length for finding μ and measurement techniques:

Linear density $\mu =$ _____ \pm _____

Mass of hanging mass $M_{\text{mass}} =$ _____ (we can assume negligible uncertainty)

Enter into the table on the reverse side of this worksheet the frequencies, periods and wavelengths of each arrangement of standing waves that you observe. Include uncertainties.

Measured velocity of wave propagation $V_M =$ _____ \pm _____

Predicted value $V_P =$ _____ \pm _____

Compare your measured and predicted values of the wave velocity. Comment on their consistency. Justify your conclusions.

Attach a printout of your *Origin* graph and linear fit, with fit parameters.

Number of Loops n	Frequency f (Hz)	Period T (s)	Length D of n loops	Wavelength λ (m)
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				

GRADE: _____
 (out of 15 points)

GRADED BY _____
 (TA's initials)