

Raw Data Sheet

Student Name: TA DATA SHEET

Team members:

1.- 2.-

3.- 4.-

Instructor: SPENCER IRELAND

a) Mass-Spring Oscillator

Table 1: Data to obtain the spring constant.

mass (g)	50	100	150	200	250
length (cm)	5.8	7.5	9.1	11.0	12.9

Hanging Mass, M 150 (g)

Table 2: Data to obtain the Natural Frequency of the system

Trial	Number of Oscillations	Time (s)	Period (s)
1	15	7.01	0.468
2	10	4.65	0.465
3	5	2.34	0.467
4			
5			
Average Period			0.467

b) Resonance

Resonance Frequency, f_r 2.2 (Hz)

Document how the mass moves in relation to the plunger when it is driven above and below the resonant frequency.

Crazy $\rightarrow$ out-of-phase for both
 More chaotic when @ higher freq.'s
 relative to resonance.

c) Pendulum

length, l 170 (cm)

Table 3: Data to show deviations from simple harmonic oscillator behavior.

Amplitude (cm)	10	30	50	70	90
Period (s)	2.607	2.617	2.627	2.640	2.658

d) Conical Pendulum

Number of Orbits, N 1Time, t 2.50 (s)Period, T 2.50 (s)radius, r 50 (cm)