

Raw Data Sheet

Student Name: Michael Liebel

Team members:

1.- _____

2.- _____

3.- _____

4.- _____

Instructor: Michael Liebel

Ballistic Pendulum

Pendulum plus Steel ball masses, $m_p + m_b$ 312 (g)

Pendulum mass, m_p 246 (g)

Center of mass length, r_{cm} 28.6 (cm)

Table 1.- θ (deg) for various trials

Range	Trial 1	Trial 2	Trial 3
Short	29.0°	27.5°	28.0°
Medium	44.5°	46.5°	47.0°
Large	65.0°	66.5°	67.0°

$$\Theta_{\text{initial}} = 10$$

Angular Collision

Outer hoop radius, $r_{h,outer}$ 6.4 (cm)

Inner hoop radius, $r_{h,inner}$ 5.4 (cm)

Hoop mass, m_h 1431 (g)

Disk radius, r_d 22.8 (cm)

Disk mass, m_d 1477 (g)

Table 2.- Rotational Frequency, f (RPM), for various trials

	Trial 1	Trial 2	Trial 3
f_{initial}	248.9	305.7	200.5
f_{final}	158.1	199.3	139.5

Note: Remember to divide f by ten – refer to page 42 in the lab manual.