## **Worksheet 11: Oscillations**

ame:		Due	,
artner:		Pencil only: us	se of Pen is forbidde
s usual, turn your Excel document into the Googl roper axis labels, rational sig-figs on the axes, lab			emplate, AND ha
Static measurement of vertical spring.	Quantity	Units	Result
Measure y for $m = 100, 150, 200, \dots 400 g$ .	Slope		<u>±</u>
Plot y vs. m.	Computed k		<u>±</u>
II. Dynamic measurement of vertical spring. Measure $10T$ for $m = 100, 150, 200, \dots 400$ g. Plot $T^2$ vs. $m$ .	Quantity	Units	Result
	Slope	CILIO	<u>±</u>
	Computed k		<u>+</u>
I. Springs: dependence on amplitude.	Quantity	Units	Result
Measure $10T$ for various $x_0$ .	Intercept	CIIICS	<u>±</u>
Plot $T$ vs. $x_0$ .	Average T		
•	± .	lid in part III. V	Why it reasonable
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We normally wouldn't find the average of many value is particular plot? How well does the average agree of the average of the ave	with the intercept?	lid in part III. V	Why it reasonable i
·	± .		Result
is particular plot? How well does the average agree of the average agree	with the intercept?  Quantity		
is particular plot? How well does the average agree $T$ . Pendulum: dependence on length. Measure $T$ for various $T$ . Plot $T^2$ vs. $T$ .	Quantity Slope Computed g	Units	Result ± ±
7. <b>Pendulum: dependence on length.</b> Measure 10 <i>T</i> for various <i>L</i> .	Quantity Slope Computed g  Quantity		Result ± ± Result
7. Pendulum: dependence on length. Measure 10T for various L. Plot T <sup>2</sup> vs. L.  Pendulum: dependence on mass.	Quantity Slope Computed g  Quantity Intercept	Units	Result ± t Result ± t
7. <b>Pendulum: dependence on length.</b> Measure $10T$ for various $L$ . Plot $T^2$ vs. $L$ .  Pendulum: dependence on mass. Measure $10T$ for various $m$ with $m$ with $m$ with $m$ measure $m$ measure $m$ with $m$ measure $m$ measure $m$ with $m$ measure $m$ meas	Quantity Slope Computed g  Quantity	Units	Result ± ± Result
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is particular plot? How well does the average agree $T$ . <b>Pendulum: dependence on length.</b> Measure $10T$ for various $L$ . Plot $T^2$ vs. $L$ . <b>Pendulum: dependence on mass.</b> Measure $10T$ for various $m$ with $L = 50$ cm. Plot $T$ vs. $m$ . <b>I. Pendulum: dependence on amplitude.</b> Measure $10T$ for various $\theta_0$ with $L = 50$ cm.	Quantity Slope Computed g  Quantity Intercept Average T co (from part VI)	Units	Result  ±  ±  Result  ±  ±  Result
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