

**Exp 1 Pendulum**

**Period vs mass**

$l = 100 \text{ cm}$

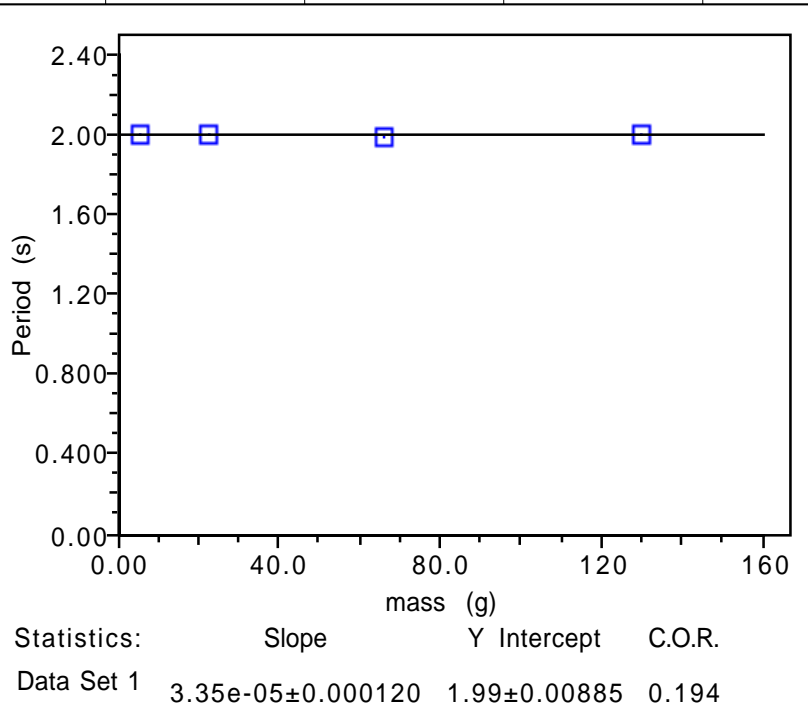
$A = 10 \text{ cm}$

mass	Period
g	s
5.5	1.99
23	2.00
66	1.98
130	2.00

$$y = mx + b$$

$$T = 0 \cdot m + 1.99s$$

$$T = 1.99s$$



**Period vs Amplitude**

$l = 90 \text{ cm}$

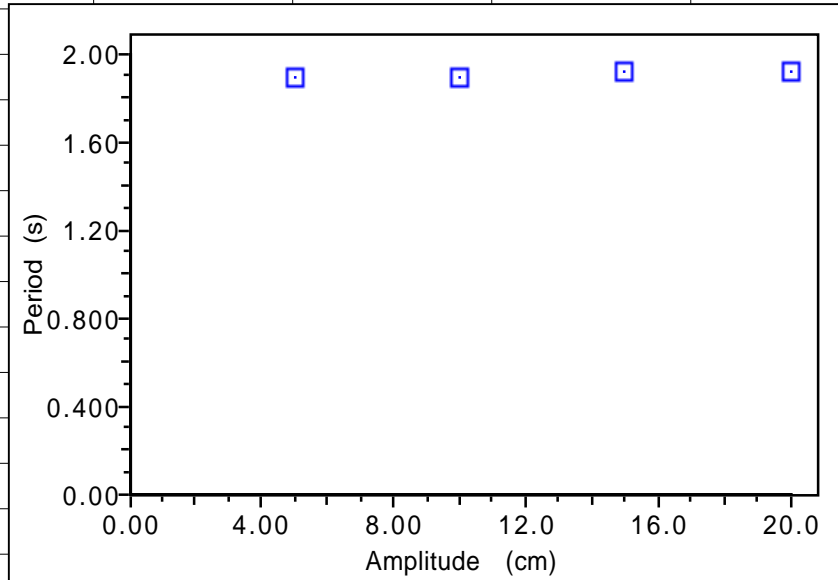
$m = 66 \text{ g}$

Amplitude	Period
cm	s
5	1.89
10	1.89
15	1.91
20	1.91

$$y = mx + b$$

$$T = 0 \cdot A + 1.90s$$

$$T = 1.90s$$



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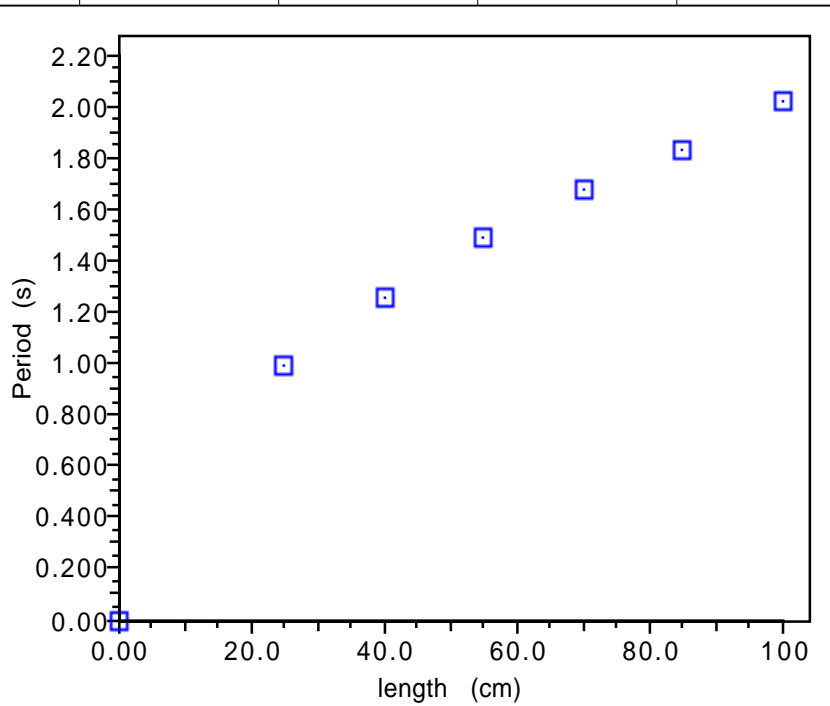
**Exp 1 Pendulum**

Period vs length

m = 66 g

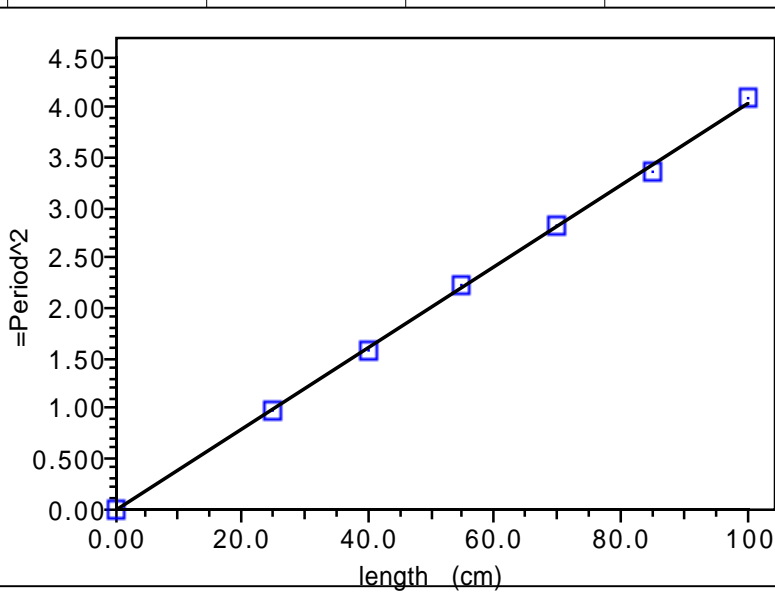
A = 10 cm

length	Period
cm	s
25	0.993
40	1.25
55	1.49
70	1.68
85	1.83
100	2.02
0	0



$$T^2 \propto l$$

length	Period	Period ^2
cm	s	s^2
25	0.993	0.986
40	1.25	1.56
55	1.49	2.22
70	1.68	2.82
85	1.83	3.35
100	2.02	4.08
0	0	0



$$y = mx + b$$

$$T = 0.0405 \frac{s^2}{cm} \cdot l - 0.0223s$$

$\frac{b}{y_{max}} = \frac{0.0223}{4.08} = 0.55\%, \text{ drop } b$	Statistics:			Slope	Y Intercept	C.O.R.
	Data Set 1	0.0405±0.000521	-0.0223±0.0326	1.00		
$T = 0.0405 \frac{s^2}{cm} \cdot l$						