

Why RMS Residual for Square Pendulum

Student data:

	Value	Std. Error
a =	0.18905	0.001128 s
b =	0.50915	0.001877
SSR =	2.45E-05	s ²
N =	7	

RMS Residual
0.001871 s

$$T = a \cdot L^b$$

Unknown F

L = 12.1 cm

Using RMS Residual:

$$T_{\min} = 0.6690$$

$$T = 0.6728 \quad +/- \quad 0.0037 \text{ s}$$

$$T_{\max} = 0.6765$$

1% spread (min to max)

Using *min* & *max* values of **a** and **b**:

$$T_{\min} = 0.6657$$

$$T = 0.6728$$

$$T_{\max} = 0.6800$$

2% spread (min to max)