

The period of pendulum T is given by

$$T = 2\pi\sqrt{\frac{l}{g}} \quad (4)$$

where l is the length of the pendulum and g is the gravitational acceleration, 9.80m/s^2 .

The table shows the data of the period of a pendulum as a function of length.

Length, l (m)	Period, T (s)	T^2 ()
0.200	0.91	
0.400	1.26	
0.600	1.58	
0.800	1.80	
1.00	2.08	
1.20	2.22	

a. Plot T vs. l .

b. Replot the graph to straighten it out, *i.e.*, plot T^a vs. l where a is the exponent to be determined from Equation 4.

c. Find the slope of the graph (with units).

	Acceleration a (m/s^2)	Total mass m (g)
	18.75	20