

Country	<input type="text"/>	Team	<input type="text"/>
ID Code: 1)	<input type="text"/>	2)	<input type="text"/>
3)	<input type="text"/>		



International Junior Science Olympiad,
Pune, India

10th

Time : 3 hrs
Marks : 40

Experimental Tasks

A + **B** + **C**

Task

A

This task is divided into three parts.

Total marks: 14

- A1:** To determine the centre of gravity of a triangular plate, A.
- A2:** To record the time period of oscillation for different suspension points for the plate.
- A3:** To analyze the above data and results.

A.Q1 Determination of CG:

[1.0 mark]

Mark "X" on **Sheet 1** at the appropriate position to denote the CG (large sized sheet).

A.Q2 Table A.1: Oscillation measurements:

[4.0 marks]

	h (m)	h ² (m ²)	Time taken for 50 oscillations (s)				T = T1/50 (s)	T ² (s ²)	hT ² (ms ²)
			1 st (t1)	2 nd (t2)	3 rd (t3)	Mean (T1) (t1+t2+t3)/3			
H1									
H2									
H3									
H4									

Country

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Experimental Tasks

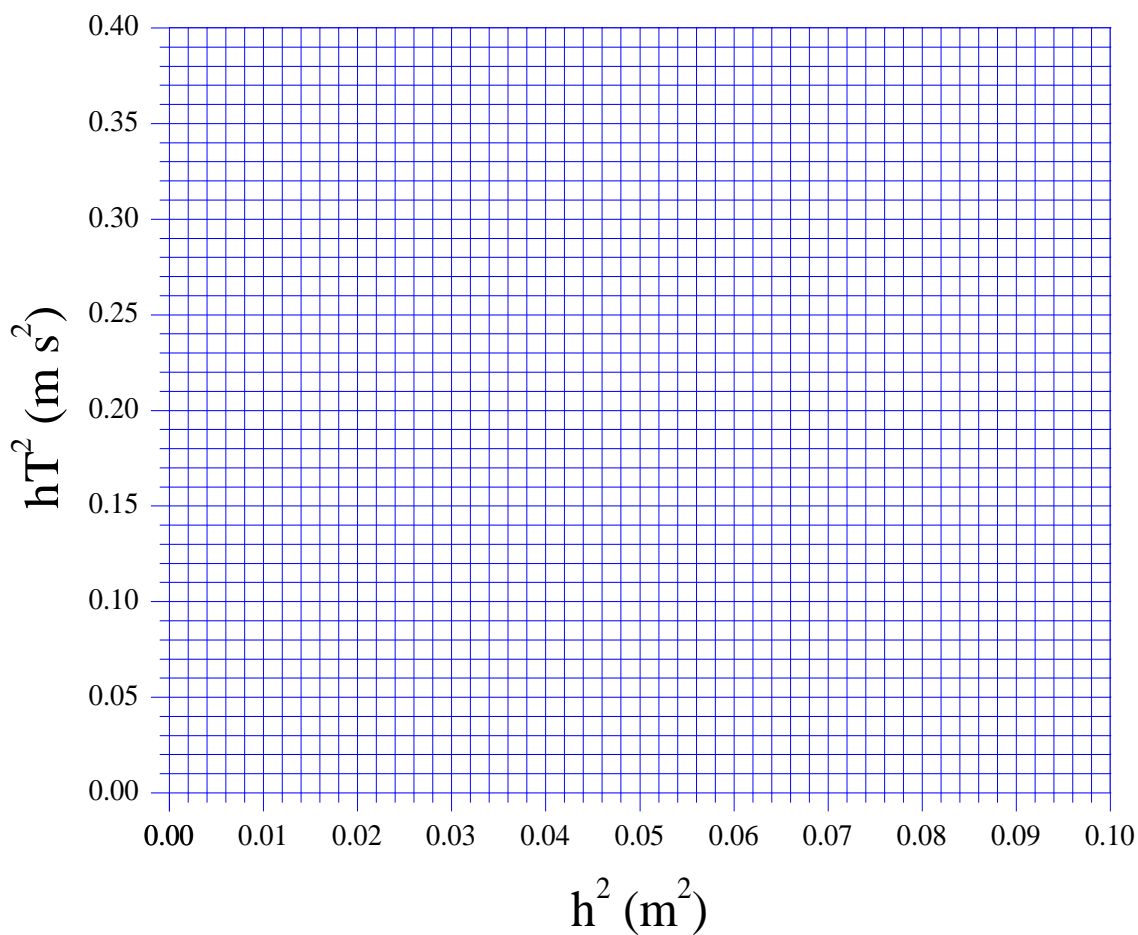
A + **B** + **C**

A.Q3 Results of the data analysis

(a) Grid 1: hT^2 (y-axis) versus h^2 (x-axis)

[2.0 marks]

Grid 1



A.Q4 Table A.2: Calculations from Grid 1

[3.0 marks]

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Quantity	Numerical value	Unit
Slope of the graph (s)		
y-intercept of the graph (c)		
Acceleration due to gravity (g)		
Radius of gyration (K)		

A.Q5 (a) Table A.3:

[3.0 marks]

Holes	h (m)	h' (m)
H1		
H4		

(b) Sheet 1: Mark the positions of points of oscillation J1 and J4 on **Sheet 1**. Label them as J1 and J4 clearly.

A.Q6 Table A.4: Lengths of equivalent simple pendulums

[1.0 mark]

Holes	h (m)	L (m)
H1		
H4		