

Reverse pendulum

Name and surname:

Group: ...

Date of expérimente:

Table of expérimental résulte

$\Delta T_{yy'}$ (s)	$T_{yy'}$ (s)	$\Delta t_{yy'}$ (s)	$t_{yy'moy}$ (s)	$t_{yy'}$ (s)	$\Delta T_{xx'}$ (s)	$T_{xx'}$ (s)	$\Delta t_{xx'}$ (s)	$t_{xx'moy}$ (s)	$t_{xx'}$ (s)	d (cm)
cal	cal	cal	cal	1	cal	cal	cal	cal	1	10
				2					2	
				3					3	
≈	≈	≈	≈	4	≈	≈	≈	≈	4	
				5					5	
cal	cal	cal	cal	1	cal	cal	cal	cal	1	15
				2					2	
				3					3	
≈	≈	≈	≈	4	≈	≈	≈	≈	4	
				5					5	
cal	cal	cal	cal	1	cal	cal	cal	cal	1	20
				2					2	
				3					3	
≈	≈	≈	≈	4	≈	≈	≈	≈	4	
				5					5	
cal	cal	cal	cal	1	cal	cal	cal	cal	1	25
				2					2	
				3					3	
≈	≈	≈	≈	4	≈	≈	≈	≈	4	
				5					5	
cal	cal	cal	cal	1	cal	cal	cal	cal	1	30
				2					2	
				3					3	
≈	≈	≈	≈	4	≈	≈	≈	≈	4	
				5					5	
cal	cal	cal	cal	1	cal	cal	cal	cal	1	35
				2					2	
				3					3	
≈	≈	≈	≈	4	≈	≈	≈	≈	4	
				5					5	
cal	cal	cal	cal	1	cal	cal	cal	cal	1	40
				2					2	
				3					3	
≈	≈	≈	≈	4	≈	≈	≈	≈	4	
				5					5	
cal	cal	cal	cal	1	cal	cal	cal	cal	1	45
				2					2	
				3					3	
≈	≈	≈	≈	4	≈	≈	≈	≈	4	
				5					5	
cal	cal	cal	cal	1	cal	cal	cal	cal	1	50
				2					2	
				3					3	
≈	≈	≈	≈	4	≈	≈	≈	≈	4	
				5					5	

Questions:

- 1) Fill in the experimental results table after ensuring that there are no outliers.
- 2) Draw on the same millimeter paper the curves $T_{xx}'=f(d)$ and $T_{yy}'=f(d)$, knowing that...
- 3) The curves $T_{xx}'=f(d)$ and $T_{yy}'=f(d)$ intersect at points **A** (T_A, d_A) and **B** (T_B, d_B). Determine the average value of the period T_{moy} :
- 4) calculate the acceleration due to gravity and write the results in the form: **$(g = g_m \pm \Delta g)$** .
- 5) Compare the obtained result for g with the theoretical result, and conclude: Is there agreement between them? Justify your answer.