Rubric for Period of a Pendulum

Heading and Abstract

Item	Comments	Score
1. Title accurately describes the experiment. Author listed and date listed.		**/1**
2. Describes what the experiment was and how it worked in a way that would be understood by a reader not familiar with the experiment.		**/3**
3. Describes the specific results of the experiment in a way that is understandable to a reader not familiar with the experiment.		**/2**
4. Written concisely (penalty if excessive unneeded details included).		**Penalty: /-0.5**
General comments on the abstract.		**/6**

Introduction

Item	Comments	Score
1. Describes the given theory and assumptions of theory that angle is small and dissipative forces negligible.		**/2**
3. Describes in general terms how the experiment tested the hypothesis.		**/1**
4. Written concisely (penalty if excessive unneeded details included).		**Penalty: /-0.5**
General comments on the introduction.		**/3**

Procedure/Methods

Item	Comments	Score
1. Describes the procedure in a way that could be replicated by someone who was not familiar with the experimental setup.		**/4**
2. Experiment tests amplitude and length with enough variation in each variable and welled-defined controls.		**/3**
3. Multiple swings used in each trial.		**/1**
4. Other quality control measures. (Multiple trials, particularly thoughtful design, etc.)		**Bonus:**
6. Includes a clearly labeled diagram(s) or pictures(s) of the experimental setup.		**/2**
7. Written in the past tense. (Penalty if not in the past tense).		**Penalty: /-0.5**
General comments on the procedure.		**/9**

Data

Item	Comments	Score
1. Data is presented clearly, with associated units and context.		**/2**
2. Uncertainty in data is presented clearly, and the uncertainty estimates are reasonable.		**/2**
3. The uncertainty estimates are explained in the text, and the explanations are reasonable.		**/2**
4. Exceptional methodology for estimating uncertainty		**Bonus:**
5. Raw data is not mixed with calculated quantities.		**Penalty:**
6. No extra material (graphs, uncertainty propagation etc.) is included.		**Penalty:**
General comments on the data section.		**/6**

Analysis

Item	Comments	Score
1. Section clearly divided into parts by independent variable.		**/1**
2. Prop of uncertainty through averaging and dividing by the number of swings iscorrect.		**/1**
3. Graphs of data corresponding to each ind. variable, with proper labels and error bars.		**/3**
4. For amplitude, MC done to get uncert. in slope.		**/1**
5. For length, data transformation done to test power law, graph made, and process discussed.		**/3**
6. Prop of uncert. through ln done correctly and explained.		**/2**
7. For transformed data graph, slope and intercept reported w/ uncertainty using MC		**/1**
8. Bonus for exceptional data/analysis		**Bonus:**
General comments on the analysis section.		**/12**

Conclusion

Item	Comments	Score
1. Explicit comparisons made, using uncertainty, between theoretical values for 2 slopes and y-int. on transformed graph for length.		**/3**
2. When exp. agrees with theory, power/uncert. discussed. and/or When exp. disagrees with theory possible reasons theory may be invalid are discussed.		**/2**
General comments on the conclusion section.		**/5**

Overall

Item	Comments	Score
1. Language in the report is easy to understand. It avoids unnecessarily long sentences. Technical language is used correctly.		**/5**
2. The grammar, spelling, and punctuation in the report is correct.		**/2**
Additional bonuses		**Bonus:**
Additional penalties		**Penalty:**
General comments.		**/7**

Total: _____/48