

Problem One

<i>Criteria</i>	Strong	Medium	Poor	<i>Points</i>
Summary Sheet: Interpretation of Contest Problem	Clear background, restates the problem and specifies focus areas of the paper, as well as stating all crucial assumptions <i>(5 points)</i>	Mentions the problem, but does not specify the goals of the paper; not all key assumptions stated <i>(3 points)</i>	Problem not restated, no assumptions mentioned <i>(1 point)</i>	4/5
Summary Sheet: Overview of Methods	Indicates the methodology used, as well as their purposes in a chronological fashion; easy to understand and not too technical <i>(10 points)</i>	Methods stated, unclear and difficult to understand <i>(6 points)</i>	Methods barely or not mentioned, no explanations given <i>(2 points)</i>	4/10
Summary Sheet: Statement of Conclusions	Important results are included without becoming too specific, possible strengths and weaknesses mentioned <i>(10 points)</i>	Results included, but not clear and/or possibly too technical <i>(6 points)</i>	Few or no results, strengths and weaknesses not mentioned <i>(2 points)</i>	4/10
Introduction	Includes background, clearly restates the problem, defines vague terms, briefly overviews approaches, important results with at most only one requiring modifications <i>(5 points)</i>	2-3 of the requirements are missing <i>(3 points)</i>	Requirements are missing <i>(1 point)</i>	2/5

<p>Solution: Assumptions/ Justifications</p>	<p>Reasonable, does not overly limit the scope of the problem, majority of the justifications are appropriate and proven</p> <p><i>(5 points)</i></p>	<p>More than 25% of the solutions section do not meet the criteria, important assumptions are not mentioned</p> <p><i>(3 points)</i></p>	<p>More than 50% do not meet the criteria, major assumptions are left out</p> <p><i>(1 point)</i></p>	<p>2/5</p>
<p>Solution: Usage of Method(s)</p>	<p>Method(s) are used correctly, efficiently, and effectively for solving the problem</p> <p><i>(10 points)</i></p>	<p>Method(s) are used correctly but do not return a reasonable result or are inefficient for solving the problem</p> <p><i>(6 points)</i></p>	<p>Method(s) are incorrectly utilized</p> <p><i>(2 points)</i></p>	<p>4/10</p>
<p>Solution: Explanation</p>	<p>All variables are clearly labeled, solution has detailed, accurate, and concise mathematical explanations for each step.</p> <p><i>(20 points)</i></p>	<p>Most variables are clearly labeled, presentation of solution is somewhat detailed, accurate, and concise, graphs and illustrations are explained</p> <p><i>(15 points)</i></p>	<p>Poor labeling of variables, presentation is vague/unclear and long winded</p> <p><i>(5 points)</i></p>	<p>5/20</p>
<p>Solution: Supporting Figures and Graphics</p>	<p>Graphs are pleasing and straightforward, enough graphs, not too many, related to the solution itself</p> <p><i>(5 points)</i></p>	<p>Some graphs are hard to understand and/or simply unnecessary</p> <p><i>(3 points)</i></p>	<p>Little to no graphs present and/or are poorly constructed</p> <p><i>(1 point)</i></p>	<p>4/5</p>
<p>Solution: Sensitivity/ Stability</p>	<p>Graphs presented with a clear restatement and explanation of selected numerical data, thoughtfully accounts for and explains any possible errors</p> <p><i>(5 points)</i></p>	<p>Graphs presented with restatement of data only, with little to no recognition of errors</p> <p><i>(3 points)</i></p>	<p>insufficient and unclear graphs produced, none or almost no data presented, error interpretation is non-existent <i>(1 point)</i></p>	<p>0/5</p>

Solution: Strengths & Weaknesses	At least three strengths and weaknesses in total are proposed for each model, more than 90% of comments are insightful and reflective (5 points)	Amount met and 50%-90% of comments are strong (3 points)	Not enough strengths and/or weaknesses OR less than 50% of remarks are above par (1 point)	4/5
Conclusion	The purpose, method, and result are clearly listed for each model (10 points)	Summary of results is unclear, but the general idea of the group's findings is present (6 points)	Few or none of the requirements are present (1 point)	3/10
Format	0-1 criteria missing from the following: - Length does not exceed 35 pages - References are clearly represented and sources are correctly cited (Cannot just make one up) - Formulas and graphs are plainly labeled - Page number, control number are labeled according to the rules - Table of Contents - Correct font for code and body - file type (PDF) (10 points)	2-3 formatting criteria missing (6 points)	More than 3 formatting criteria missing (1 point)	7/10
				Total: 43 /100

Problem Two

Criteria	Strong	Medium	Poor	Points
Summary Sheet: Interpretation of Contest Problem	Clear background, restates the problem and specifies focus areas of the paper, as well as stating all crucial assumptions <i>(5 points)</i>	Mentions the problem, but does not specify the goals of the paper; not all key assumptions stated <i>(3 points)</i>	Problem not restated, no assumptions mentioned <i>(1 point)</i>	1/5
Summary Sheet: Overview of Methods	Indicates the methodology used, as well as their purposes in a chronological fashion; easy to understand and not too technical <i>(10 points)</i>	Methods stated, unclear and difficult to understand <i>(6 points)</i>	Methods barely or not mentioned, no explanations given <i>(2 points)</i>	2/10
Summary Sheet: Statement of Conclusions	Important results are included without becoming too specific, possible strengths and weaknesses mentioned <i>(10 points)</i>	Results included, but not clear and/or possibly too technical <i>(6 points)</i>	Few or no results, strengths and weaknesses not mentioned <i>(2 points)</i>	1/10
Introduction	Includes background, clearly restates the problem, defines vague terms, briefly overviews approaches, important results with at most only one requiring modifications <i>(5 points)</i>	2-3 of the requirements are missing <i>(3 points)</i>	Requirements are missing <i>(1 point)</i>	3/5
Solution: Assumptions/	Reasonable, does not overly limit the scope of the problem, majority of the	More than 25% of the solutions section do not	More than 50% do not meet the criteria,	2/5

Justifications	justifications are appropriate and proven <i>(5 points)</i>	meet the criteria, important assumptions are not mentioned <i>(3 points)</i>	major assumptions are left out <i>(1 point)</i>	
Solution: Usage of Method(s)	Method(s) are used correctly, efficiently, and effectively for solving the problem <i>(10 points)</i>	Method(s) are used correctly but do not return a reasonable result or are inefficient for solving the problem <i>(6 points)</i>	Method(s) are incorrectly utilized <i>(2 points)</i>	3/10
Solution: Explanation	All variables are clearly labeled, solution has detailed, accurate, and concise mathematical explanations for each step. <i>(20 points)</i>	Most variables are clearly labeled, presentation of solution is somewhat detailed, accurate, and concise, graphs and illustrations are explained <i>(15 points)</i>	Poor labeling of variables, presentation is vague/unclear and long winded <i>(5 points)</i>	5/20
Solution: Supporting Figures and Graphics	Graphs are pleasing and straightforward, enough graphs, not too many, related to the solution itself <i>(5 points)</i>	Some graphs are hard to understand and/or simply unnecessary <i>(3 points)</i>	Little to no graphs present and/or are poorly constructed <i>(1 point)</i>	0/5
Solution: Sensitivity/ Stability	Graphs presented with a clear restatement and explanation of selected numerical data, thoughtfully accounts for and explains any possible errors <i>(5 points)</i>	Graphs presented with restatement of data only, with little to no recognition of errors <i>(3 points)</i>	insufficient and unclear graphs produced, none or almost no data presented, error interpretation is non-existent <i>(1 point)</i>	0/5
Solution: Strengths &	At least three strengths and weaknesses in total are proposed for each model, more	Amount met and 50%-90% of comments are strong	Not enough strengths and/or weaknesses OR	1/5

Weaknesses	than 90% of comments are insightful and reflective (5 points)	(3 points)	less than 50% of remarks are above par (1 point)	
Conclusion	The purpose, method, and result are clearly listed for each model (10 points)	Summary of results is unclear, but the general idea of the group's findings is present (6 points)	Few or none of the requirements are present (1 point)	0/10
Format	0-1 criteria missing from the following: - Length does not exceed 35 pages - References are clearly represented and sources are correctly cited (Cannot just make one up) - Formulas and graphs are plainly labeled - Page number, control number are labeled according to the rules - Table of Contents - Correct font for code and body - file type (PDF) (10 points)	2-3 formatting criteria missing (6 points)	More than 3 formatting criteria missing (1 point)	4/10
				Total: 22/100