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SCO	ring	Guidelines	111

Fight (Round no.):	Room:	Stage:	Problem no.: \mathcal{A}
Juror: Andreas	Kratzer	Signature:	H. ham

Α	report	should	include:	,
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• a presentation of the appropriate concepts, theories and principles of the problem • an explanation of the observed phenomena • an application of appropriate mathematics • reasonable experimental technique to gather and record data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings to draw suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner

An opposition should show that:

• the opponent challenged the reporter's understanding of the presented concepts, theories and principles • the opponent understood the appropriate mathematics presented • the opponent critiqued the experimental technique used and questioned the validity of the data • the opponent appreciated and highlighted the strengths and weaknesses of the report

A review should show that:

- the reviewer succeeded in giving an objective summary of the performances the reporter and opponent the reviewer appreciated the important aspects (especially the controversial ones) • the reviewer's personal opinion was in evidence (not just superficial observations) • such personal opinions were informative, non-trivial and demonstrated, where possible, the reviewer's understanding of concepts, theories, principles and appropriate mathematics used by the reporter and the opponent
- The grade for each of the three teams consists of a partial grade for *physics*, *presentation* and for their *specific role*.

 Select each partial grade from each se 	each <i>start with 5 points</i> . <i>add</i> to or <i>deduct</i> from the initial <i>5 points</i> . ction and <i>write it</i> in the corresponding box. no questions were posed or not finding shortc	comings if there were none to find.
Rep.: 31471 5	Opp.: Nyera 5	Rev.: Bulgary 5
Physics ±3 ☐ Correct and relevant physics ☐ Scientific approach ☐ Validity of conclusions	Physics ±3 Correct and relevant physics Scientific approach Validity of conclusions	Physics ±3 Correct and relevant physics Scientific approach
Accurate answers Presentation ±1	Accurate answers Presentation ±1	☐ Validity of conclusions ☐ Accurate answers Presentation ±1
☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression	☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression	☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression
Reporter ±1 Quality of experimental technique(s) Structure Explanation of formulae and	Opponent ±1 Response to the reporter's solution Shows the strong and weak points of the report	Reviewer ±1 Provides a thorough review of report and discussion Expresses own opinion about topics presented or discussed
symbols Appropriate models, conformity of dimensions Slides, on-site experiments, audio, video, as appropriate	 ☐ Finds shortcomings or errors in the report ☐ Relevance of the questions ☐ Contribution to the discussion 	 Relevance of questions to both the reporter and the opponent Draws attention to points missed by the reporter or the opponent
References, proper citations of ideas and input of others Novelty of the report Contribution to the discussion		This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades – please do not bend
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Final Grade: Reporter

Final Grade: Opponent





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Fight (Round no.): Room:	Stage: Problem no.:	9
luror: "HUDIT JUY"	Signature: The March	Ĺ

A report should include	le:	ud	clι	in	ıld	sho	rt	poi	re	Α
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• a presentation of the appropriate concepts, theories and principles of the problem • an explanation of the observed phenomena • an application of appropriate mathematics • reasonable experimental technique to gather and record data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings to draw suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner

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- The reporter apparent and reviewer and remaining

 Select each partial grade from each sec 	add to or deduct from the initial 5 points. ction and write it in the corresponding box. o questions were posed or not finding shortc	omings if there were none to find.
Rep.: 3 racil 5	Opp.: 1	Rev.: Posquina 5
Physics ±3 Correct and relevant physics Scientific approach	Physics ±3 ☐ Correct and relevant physics ☐ Scientific approach	Physics ±3 ☐ Correct and relevant physics ☐ Scientific approach
☐ Validity of conclusions ☐ Accurate answers	☐ Validity of conclusions ☐ Accurate answers	☐ Validity of conclusions ☐ Accurate answers
Presentation ±1 ☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression Reporter ±1 ☐ Quality of experimental technique(s) ☐ Structure ☐ Explanation of formulae and symbols ☐ Appropriate models, conformity of dimensions ☐ Slides, on-site experiments, audio, video, as appropriate ☐ References, proper citations of ideas and input of others ☐ Novelty of the report ☐ Contribution to the discussion	Presentation ±1 ☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression Opponent ±1 ☐ Response to the reporter's solution ☐ Shows the strong and weak points of the report ☐ Finds shortcomings or errors in the report ☐ Relevance of the questions ☐ Contribution to the discussion	Presentation ±1 Clear and understandable Appropriate manner Overall impression Reviewer ±1 Provides a thorough review of report and discussion Expresses own opinion about topics presented or discussed Relevance of questions to both the reporter and the opponent Draws attention to points missed by the reporter or the opponent This sheet will be collected by the fight assistant, so we can scan it and fight assistant, so we can scan it and archive your partial grades – please do not bend

Final Grade: Opponent

Revised after IOC feedback and approved by EC on 2011-11-03

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Fight (Round no.): Ro	om: Fage:	1 Problem pos: 5
Juror: Laly & lev	Signature:	

Final Grade: Reviewer Revised after IOC feedback and approved by EC on 2011-11-03

A report should include:

• a presentation of the appropriate concepts, theories and principles of the problem • an explanation of the observed phenomena • an application of appropriate mathematics • reasonable experimental technique to gather and record data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings to draw suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner

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- The grade for each of the three teams consists of a partial grade for physics, presentation and for their specific role.
- The reporter, opponent and reviewer each start with 5 points.
- Consider the following suggestions to add to or deduct from the initial 5 points.

 Select each partial grade from each se Don't punish missing 'answers' when r 	ction and <i>write it</i> in the corresponding box. no questions were posed or not finding shortc	comings if there were none to find.
Rep.: 5	Opp.: 5	Rev.: 5
Physics ±3 ☐ Correct and relevant physics ☐ Scientific approach ☐ Validity of conclusions ☐ Accurate answers	Physics ±3 Correct and relevant physics Scientific approach Validity of conclusions Accurate answers	Physics ±3 Correct and relevant physics Scientific approach Validity of conclusions Accurate answers
Presentation ±1	Presentation ±1 ☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression	Presentation ±1 ☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression
Reporter ±1 Quality of experimental technique(s) Structure Explanation of formulae and symbols Appropriate models, conformity of dimensions Slides, on-site experiments, audio, video, as appropriate References, proper citations of ideas and input of others Novelty of the report Contribution to the discussion	Opponent ±1 Response to the reporter's solution Shows the strong and weak points of the report Finds shortcomings or errors in the report Relevance of the questions Contribution to the discussion	Reviewer ±1 Provides a thorough review of report and discussion Expresses own opinion about topics presented or discussed Relevance of questions to both the reporter and the opponent Draws attention to points missed by the reporter or the opponent This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades — please do not bend
Final Grade: Reporter	Final Grade: Opponent	Final Grade: Reviewer

Scoring Guidelia	right (Round no.): 3 Room Nes Juror: Eyen Vois	m: F Stage: Problem no.:
appropriate) • linking of theoretical and ecomplex ideas in an effective and understand. An opposition should show that: • the opponent challenged the reporter's unappropriate mathematics presented • the opponent appreciated and highlighted the standard A review should show that: • the reviewer succeeded in giving an object important aspects (especially the controver.	nderstanding of the presented concepts, theories pponent critiqued the experimental technique use trengths and weaknesses of the report ctive summary of the performances the reporter sial ones) • the reviewer's personal opinion was intervivial and demonstrated, where possible, the reviewer is personal opinion to the reviewer's personal opinion was intervivial and demonstrated, where possible, the reviewer's personal opinion was intervivial and demonstrated.	and opponent • the reviewer appreciated the
 The grade for each of the three teams The reporter, opponent and reviewer Consider the following suggestions to Select each partial grade from each see 	consists of a partial grade for <i>physics</i> , <i>presen</i>	
Rep.: Biahil 5	Opp.: Vigeria 5	Rev.: Bulgaria 5
Correct and relevant physics Correct and relevant physics Scientific approach Validity of conclusions Accurate answers Cresentation ±1 Clear and understandable Appropriate manner	Physics ±3 ☐ Correct and relevant physics ☐ Scientific approach ☐ Validity of conclusions ☐ Accurate answers Presentation ±1 ☐ Clear and understandable ☐ Appropriate manner	Physics ±3 Correct and relevant physics Scientific approach Validity of conclusions Accurate answers Presentation ±1 Clear and understandable
Overall impression Reporter ±1	Opponent ±1	☐ Appropriate manner ☐ Overall impression
Quality of experimental technique(s) Structure Explanation of formulae and symbols Appropriate models, conformity of dimensions Slides, on-site experiments, audio, video, as appropriate References, proper citations of ideas and input of others	Response to the reporter's solution Shows the strong and weak points of the report Finds shortcomings or errors in the report Relevance of the questions Contribution to the discussion	Provides a thorough review of report and discussion Expresses own opinion about topics presented or discussed Relevance of questions to both the reporter and the opponent Draws attention to points missed by the reporter or the opponent
Novelty of the report		This sheet will be common this sheet will be common thin the fight assistant, so we can scan it and archive your partial grades – please

Final Grade: Opponent Final Grade: Reviewer Revised after IOC feedback and approved by EC on 2011-11-03

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☐ Contribution to the discussion

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Scor	ing	Gu	ide	lines

Fight (Round no.):	<u>3</u> Room	: Stage:	1 Problem no.:
Juror: Nicoles	Chevolie	Signature:	alling

A	report	should	include:
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• a presentation of the appropriate concepts, theories and principles of the problem • an explanation of the observed phenomena • an application of appropriate mathematics • reasonable experimental technique to gather and record data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings to draw suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner

An opposition should show that:

• the opponent challenged the reporter's understanding of the presented concepts, theories and principles • the opponent understood the appropriate mathematics presented • the opponent critiqued the experimental technique used and questioned the validity of the data • the opponent appreciated and highlighted the strengths and weaknesses of the report

A review should show that:

• the reviewer succeeded in giving an *objective summary* of the performances the *reporter* and *opponent* • the reviewer appreciated the *important aspects* (especially the *controversial* ones) • the reviewer's *personal opinion* was in evidence (*not* just *superficial observations*) • such personal opinions were *informative*, *non-trivial* and demonstrated, where possible, the reviewer's *understanding* of *concepts*, *theories*, *principles* and *appropriate mathematics* used by the reporter and the opponent

- The grade for each of the three teams consists of a partial grade for physics, presentation and for their specific role.
- The reporter, opponent and reviewer each start with 5 points.

 Select each partial grade from each se 	add to or deduct from the initial 5 points. ction and write it in the corresponding box. no questions were posed or not finding shorte	omings if there were none to find
Rep.: Brazil 5	Opp.: Nigeria 5	Rev.: Bulgaria 5
Physics ±3	Physics ±3	Physics ±3 + (
 ☐ Correct and relevant physics ☐ Scientific approach ☐ Validity of conclusions ☐ Accurate answers 	☐ Correct and relevant physics☐ Scientific approach☐ Validity of conclusions☐ Accurate answers	 ☐ Correct and relevant physics ☐ Scientific approach ☐ Validity of conclusions ☐ Accurate answers
Presentation ±1 ☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression	Presentation ±1 ☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression	Presentation ±1
Reporter ±1 Quality of experimental technique(s) Structure Explanation of formulae and symbols Appropriate models, conformity of dimensions Slides, on-site experiments, audio, video, as appropriate References, proper citations of ideas and input of others Novelty of the report Contribution to the discussion	Opponent ±1 Response to the reporter's solution Shows the strong and weak points of the report Finds shortcomings or errors in the report Relevance of the questions Contribution to the discussion	Reviewer ±1 Provides a thorough review of report and discussion Expresses own opinion about topics presented or discussed Relevance of questions to both the reporter and the opponent Draws attention to points missed by the reporter or the opponent This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades — please do not bend
Final Grade: Reporter	Final Grade: Opponent 5	Final Grade: Reviewer fter IOC feedback and approved by EC on 2011-11-03

		Fight (Round	no.):	Room:	
Scoring	Guidelines	Juror: TU	Cheng	jhou	Signat

uror: Tu Chenghou Signature: Tu Chenghou

Final Grade: Reviewer Revised after IOC feedback and approved by EC on 2011-11-03

A report should include:

• a presentation of the appropriate concepts, theories and principles of the problem • an explanation of the observed phenomena • an application of appropriate mathematics • reasonable experimental technique to gather and record data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings to draw suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner

An opposition should show that:

• the opponent *challenged* the *reporter's understanding* of the presented *concepts, theories* and *principles* • the opponent understood the *appropriate mathematics* presented • the opponent *critiqued* the *experimental technique* used and questioned the *validity* of the *data* • the opponent appreciated and highlighted the *strengths and weaknesses* of the report

A review should show that:

- the reviewer succeeded in giving an *objective summary* of the performances the *reporter* and *opponent* the reviewer appreciated the *important aspects* (especially the *controversial* ones) the reviewer's *personal opinion* was in evidence (*not* just *superficial observations*) such personal opinions were *informative*, *non-trivial* and demonstrated, where possible, the reviewer's *understanding* of *concepts*, *theories*, *principles* and *appropriate mathematics* used by the reporter and the opponent
- The grade for each of the three teams consists of a partial grade for physics, presentation and for their specific role.
- The reporter, opponent and reviewer each start with 5 points.
- Consider the following suggestions to add to or deduct from the initial 5 points.
- Select each partial grade from each section and write it in the corresponding box.
- Don't punish missing 'answers' when no questions were posed or not finding shortcomings if there were none to find

Pont panisi missing answers when in	o questions were posed of not infamily shorter	onings if there were none to mia.					
Rep.: Brazil 5	Opp.: Nigeria 5	Rev.: Bulgaria 5					
Physics ±3 +1	Physics ±3	Physics ±3 †1					
☐ Correct and relevant physics	☐ Correct and relevant physics	☐ Correct and relevant physics					
☐ Scientific approach	☐ Scientific approach	☐ Scientific approach					
☐ Validity of conclusions	☐ Validity of conclusions	☐ Validity of conclusions					
☐ Accurate answers	☐ Accurate answers	☐ Accurate answers					
Presentation ±1	Presentation ±1	Presentation ±1					
☐ Clear and understandable	☐ Clear and understandable	☐ Clear and understandable					
☐ Appropriate manner	☐ Appropriate manner	☐ Appropriate manner					
☐ Overall impression	Overall impression	☐ Overall impression					
	·						
Reporter ±1	Opponent ±1	Reviewer ±1 0					
Reporter ±1 ☐ Quality of experimental technique(s)	Opponent ±1 0 Response to the reporter's solution	·					
☐ Quality of experimental	Response to the reporter's solution Shows the strong and weak points	Reviewer ±1 Provides a thorough review of report and discussion Expresses own opinion about					
☐ Quality of experimental technique(s) ☐ Structure ☐ Explanation of formulae and	Response to the reporter's solution Shows the strong and weak points of the report	Reviewer ±1 0 Provides a thorough review of report and discussion					
☐ Quality of experimental technique(s) ☐ Structure ☐ Explanation of formulae and symbols ☐ Appropriate models, conformity	Response to the reporter's solution Shows the strong and weak points	Reviewer ±1 Provides a thorough review of report and discussion Expresses own opinion about					
☐ Quality of experimental technique(s) ☐ Structure ☐ Explanation of formulae and	Response to the reporter's solution Shows the strong and weak points of the report Finds shortcomings or errors in	Reviewer ±1 Provides a thorough review of report and discussion Expresses own opinion about topics presented or discussed Relevance of questions to both the reporter and the opponent Draws attention to points missed					
☐ Quality of experimental technique(s) ☐ Structure ☐ Explanation of formulae and symbols ☐ Appropriate models, conformity	Response to the reporter's solution Shows the strong and weak points of the report Finds shortcomings or errors in the report	Reviewer ±1 Provides a thorough review of report and discussion Expresses own opinion about topics presented or discussed Relevance of questions to both the reporter and the opponent Draws attention to points missed by the reporter or the opponent					
 ☐ Quality of experimental technique(s) ☐ Structure ☐ Explanation of formulae and symbols ☐ Appropriate models, conformity of dimensions ☐ Slides, on-site experiments, audio. 	Response to the reporter's solution Shows the strong and weak points of the report Finds shortcomings or errors in the report Relevance of the questions	Reviewer ±1 Provides a thorough review of report and discussion Expresses own opinion about topics presented or discussed Relevance of questions to both the reporter and the opponent Draws attention to points missed by the reporter or the opponent					
 ☐ Quality of experimental technique(s) ☐ Structure ☐ Explanation of formulae and symbols ☐ Appropriate models, conformity of dimensions ☐ Slides, on-site experiments, audio, video, as appropriate ☐ References, proper citations of 	Response to the reporter's solution Shows the strong and weak points of the report Finds shortcomings or errors in the report Relevance of the questions	Reviewer ±1 Provides a thorough review of report and discussion Expresses own opinion about topics presented or discussed Relevance of questions to both the reporter and the opponent Draws attention to points missed by the reporter or the opponent					

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Fight (Round no.):	Room:	Stage:	2 Problem no.: 14
Juror: Nicola	Chevolie	Signature:	Wair

• a presentation of the appropriate concepts, theories and principles of the problem • an explanation of the observed phenomena • an application of appropriate mathematics • reasonable experimental technique to gather and record data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings to draw suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner

An opposition should show that:

• the opponent challenged the reporter's understanding of the presented concepts, theories and principles • the opponent understood the appropriate mathematics presented • the opponent critiqued the experimental technique used and questioned the validity of the data • the opponent appreciated and highlighted the strengths and weaknesses of the report

A review should show that:

Final Grade: Reporter

- the reviewer succeeded in giving an objective summary of the performances the reporter and opponent the reviewer appreciated the important aspects (especially the controversial ones) • the reviewer's personal opinion was in evidence (not just superficial observations) • such personal opinions were informative, non-trivial and demonstrated, where possible, the reviewer's understanding of concepts, theories, principles and appropriate mathematics used by the reporter and the opponent
- The grade for each of the three teams consists of a partial grade for *physics*, *presentation* and for their *specific role*.
- The reporter, opponent and reviewer each start with 5 points.
- Consider the following suggestions to add to or deduct from the initial 5 points.
- Select each partial grade from each section and write it in the corresponding box.

 Don't punish missing 'answers' when n 	o questions were posed of not infamig shorter	onings if there were notice to find,					
Rep.: Nogeria 5	Opp.: <u>Sulgaria</u> 5	Rev.: Brazil 5					
Physics ±3	Physics ±3	Physics ±3					
☐ Correct and relevant physics	☐ Correct and relevant physics	Correct and relevant physics					
Scientific approach	Scientific approach	☐ Scientific approach					
☐ Validity of conclusions	☐ Validity of conclusions	☐ Validity of conclusions					
☐ Accurate answers	☐ Accurate answers	☐ Accurate answers					
Presentation ±1	Presentation ±1	Presentation ±1					
Clear and understandable	☐ Clear and understandable	☐ Clear and understandable					
☐ Appropriate manner	☐ Appropriate manner	☐ Appropriate manner					
Overall impression	Overall impression	☐ Overall impression					
		ACCULATION OF THE PROPERTY OF					
Reporter ±1	Opponent ±1	Reviewer ±1 +0.5					
Reporter ±1 Quality of experimental technique(s)	Opponent ±1 Response to the reporter's solution	Reviewer ±1 +0.5 Provides a thorough review of report and discussion					
Quality of experimental	Response to the reporter's solution Shows the strong and weak points	Provides a thorough review of report and discussion Expresses own opinion about					
Quality of experimental technique(s) Structure Explanation of formulae and	Response to the reporter's solution	Provides a thorough review of					
☐ Quality of experimental technique(s) ☐ Structure ☐ Explanation of formulae and symbols	Response to the reporter's solution Shows the strong and weak points	Provides a thorough review of report and discussion Expresses own opinion about					
Quality of experimental technique(s) Structure Explanation of formulae and	Response to the reporter's solution Shows the strong and weak points of the report Finds shortcomings or errors in	Provides a thorough review of report and discussion Expresses own opinion about topics presented or discussed Relevance of questions to both the reporter and the opponent Draws attention to points missed					
☐ Quality of experimental technique(s) ☐ Structure ☐ Explanation of formulae and symbols ☐ Appropriate models, conformity	Response to the reporter's solution Shows the strong and weak points of the report Finds shortcomings or errors in the report	Provides a thorough review of report and discussion Expresses own opinion about topics presented or discussed Relevance of questions to both the reporter and the opponent					
 ☐ Quality of experimental technique(s) ☐ Structure ☐ Explanation of formulae and symbols ☐ Appropriate models, conformity of dimensions ☐ Slides, on-site experiments, audio. 	Response to the reporter's solution Shows the strong and weak points of the report Finds shortcomings or errors in the report Relevance of the questions	Provides a thorough review of report and discussion Expresses own opinion about topics presented or discussed Relevance of questions to both the reporter and the opponent Draws attention to points missed by the reporter or the opponent This sheet will be collected by the					
 ☐ Quality of experimental technique(s) ☐ Structure ☐ Explanation of formulae and symbols ☐ Appropriate models, conformity of dimensions ☐ Slides, on-site experiments, audio, video, as appropriate 	Response to the reporter's solution Shows the strong and weak points of the report Finds shortcomings or errors in the report Relevance of the questions	Provides a thorough review of report and discussion Expresses own opinion about topics presented or discussed Relevance of questions to both the reporter and the opponent Draws attention to points missed by the reporter or the opponent This sheet will be collected by the					
 ☐ Quality of experimental technique(s) ☐ Structure ☐ Explanation of formulae and symbols ☐ Appropriate models, conformity of dimensions ☐ Slides, on-site experiments, audio, video, as appropriate ☐ References, proper citations of ideas and input of others 	Response to the reporter's solution Shows the strong and weak points of the report Finds shortcomings or errors in the report Relevance of the questions	Provides a thorough review of report and discussion Expresses own opinion about topics presented or discussed Relevance of questions to both the reporter and the opponent Draws attention to points missed by the reporter or the opponent					

Final Grade: Opponent

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Scoring Guidelines	Fight (Round no.): Room: Stage: Problem no.: Juror: Loky Slew Signature: M
application of appropriate mathematics • reasonable e	and principles of the problem • an explanation of the observed phenomena • an experimental technique to gather and record data (or demonstrate the phenomena if all findings to draw suitable conclusions • an attempt to communicate difficult or ler
An opposition should show that: • the opponent challenged the reporter's understanding appropriate mathematics presented • the opponent cristian opponent appreciated and highlighted the strengths and	g of the presented concepts, theories and principles • the opponent understood the tiqued the experimental technique used and questioned the validity of the data • the dweaknesses of the report
A review should show that:	
mportant aspects (especially the controversial ones) •	the performances the reporter and opponent • the reviewer appreciated the the reviewer's personal opinion was in evidence (not just superficial observations) • d demonstrated, where possible, the reviewer's understanding of concepts , theories , orter and the opponent

- principles

 Consider the following suggestions to Select each partial grade from each se 	consists of a partial grade for <i>physics, presen</i> each <i>start with 5 points</i> . <i>add</i> to or <i>deduct</i> from the initial <i>5 points</i> . ction and <i>write it</i> in the corresponding box. no questions were posed or not finding shorto						
Rep.: 5	Opp.: 5	Rev.: 5					
Physics ±3	Physics ±3	Physics ±3					
Correct and relevant physicsScientific approach	☐ Correct and relevant physics	☐ Correct and relevant physics					
☐ Validity of conclusions	Scientific approach	Scientific approach					
Accurate answers	☐ Validity of conclusions	☐ Validity of conclusions					
Accurate answers	☐ Accurate answers	☐ Accurate answers					
Presentation ±1	Presentation ±1	Presentation ±1					
☐ Clear and understandable	☐ Clear and understandable	☐ Clear and understandable					
☐ Appropriate manner	☐ Appropriate manner	☐ Appropriate manner					
☐ Overall impression	Overall impression	☐ Overall impression					
Reporter ±1	Opponent ±1	Reviewer ±1					
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion					
Structure	Shows the strong and weak points of the report	Expresses own opinion about					
Explanation of formulae and symbols	Finds shortcomings or errors in	topics presented or discussed Relevance of questions to both the					
Appropriate models, conformity of dimensions	the report	reporter and the opponent					
·	Relevance of the questions	Draws attention to points missed by the reporter or the opponent					
Slides, on-site experiments, audio, video, as appropriate	☐ Contribution to the discussion	by the reporter or the opponent					
References, proper citations of ideas and input of others		This sheet will be collected by the					
☐ Novelty of the report		fight assistant, so we can scan it and archive your partial grades – please					
☐ Contribution to the discussion		do not bend					
Final Grade: Reporter	Final Grade: Opponent Revised a	Final Grade: Reviewer fter IOC feedback and approved by EC on 2011-11-03					





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SCATINA (-IIIA)	olinac
Scoring Guide	

Fight (Round no.):	─── Room:		_Stage: _	2 Lan	Problem no.:	14
Juror: Andreus	Klutce	Signatur	e: <i> </i> }	16		
		···			- 	

Revised after IOC feedback and approved by EC on 2011-11-03

A report should include:

• a presentation of the appropriate concepts, theories and principles of the problem • an explanation of the observed phenomena • an application of appropriate mathematics • reasonable experimental technique to gather and record data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings to draw suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner

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- The reporter, opponent and reviewer each start with 5 points.
- Consider the following suggestions to add to or deduct from the initial 5 noints

 Select each partial grade from each sec Don't punish missing 'answers' when no 	ction and write it in the corresponding box. o questions were posed or not finding shortco	omings if there were none to find.
Rep.: <u>Naces</u> 5	Opp.: Bulgarin 5	Rev.: 2000 5
Physics ±3	Physics ±3	Physics ±3
Correct and relevant physics	☐ Correct and relevant physics	☐ Correct and relevant physics
Scientific approach	☐ Scientific approach	☐ Scientific approach
☐ Validity of conclusions	☐ Validity of conclusions	☐ Validity of conclusions
☐ Accurate answers	☐ Accurate answers	☐ Accurate answers
Presentation ±1	Presentation ±1	Presentation ±1
Clear and understandable	☐ Clear and understandable	☐ Clear and understandable
Appropriate manner	☐ Appropriate manner	☐ Appropriate manner
Overall impression	Overall impression	Overall impression
Reporter ±1	Opponent ±1	Reviewer ±1
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion
☐ Structure	☐ Shows the strong and weak points	☐ Expresses own opinion about
☐ Explanation of formulae and	of the report	topics presented or discussed
symbols Appropriate models, conformity	☐ Finds shortcomings or errors in the report	Relevance of questions to both the reporter and the opponent
of dimensions	☐ Relevance of the questions	Draws attention to points missed
Slides, on-site experiments, audio, video, as appropriate	☐ Contribution to the discussion	by the reporter or the opponent
References, proper citations of ideas and input of others		This sheet will be collected by the fight assistant, so we can scan it and
☐ Novelty of the report		fight assistant, so we con archive your partial grades – please
Contribution to the discussion		do not bend
Final Grade: Reporter	Final Grade: Opponent	

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Fight (Round no.): 3 Room: F Stage: 2 Problem no.:
Juror: Het TUY Signature: Yely Yncuis
and principles of the problem • an explanation of the observed phenomena • an

• a presentation of the appropriate concepts, theories application of appropriate mathematics • reasonable experimental technique to gather and record data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings to draw suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner

An opposition should show that:

• the opponent challenged the reporter's understanding of the presented concepts, theories and principles • the opponent understood the appropriate mathematics presented ● the opponent critiqued the experimental technique used and questioned the validity of the data ● the opponent appreciated and highlighted the strengths and weaknesses of the report

A review should show that:

- the reviewer succeeded in giving an objective summary of the performances the reporter and opponent the reviewer appreciated the important aspects (especially the controversial ones) • the reviewer's personal opinion was in evidence (not just superficial observations) • such personal opinions were informative, non-trivial and demonstrated, where possible, the reviewer's understanding of concepts, theories, principles and appropriate mathematics used by the reporter and the opponent
- The grade for each of the three teams consists of a partial grade for physics, presentation and for their specific role.
- The reporter, opponent and reviewer each start with 5 points.
- Consider the following suggestions to add to or deduct from the initial 5 points.

	ction and <i>write it</i> in the corresponding box. o questions were posed or not finding shortco	omings if there were none to find.
Rep.: Nigeria 5	Opp.: Bulgaria 5	Rev.: Bracil 5
Physics ±3	Physics ±3	Physics ±3
△ Correct and relevant physics	Correct and relevant physics	☐ Correct and relevant physics
☑ Scientific approach	Scientific approach	☐ Scientific approach
☐ Validity of conclusions	☐ Validity of conclusions	☐ Validity of conclusions
☐ Accurate answers	☐ Accurate answers	☐ Accurate answers
Presentation ±1	Presentation ±1	Presentation ±1
🖟 Clear and understandable	☐ Clear and understandable	☐ Clear and understandable
☐ Appropriate manner	☐ Appropriate manner	Appropriate manner
Overall impression	☐ Overall impression	Overall impression
Reporter ±1	Opponent ±1	Reviewer ±1
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion
☐ Structure	☐ Shows the strong and weak points	Expresses own opinion about
☐ Explanation of formulae and	of the report	topics presented or discussed
symbols Appropriate models, conformity	Finds shortcomings or errors in the report	Relevance of questions to both the reporter and the opponent
of dimensions	☐ Relevance of the questions	☐ Draws attention to points missed
Slides, on-site experiments, audio, video, as appropriate	☐ Contribution to the discussion	by the reporter or the opponent
References, proper citations of ideas and input of others		This sheet will be collected by the fight assistant, so we can scan it and
☐ Novelty of the report		fight assistant, so we com- archive your partial grades – please
☐ Contribution to the discussion		do not bend
		g-in-terms on the control of the con

Final Grade: Opponent

Scoring Guideli	right (Round no.): 3 Roor Nes Juror: Tu Chenghou	m: F Stage: 2 Problem no.: 14 Signature: Tu chenghou
	<u> </u>	_ orginature.
application of appropriate mathematics •	pts, theories and principles of the problem • an or reasonable experimental technique to gather and experimental findings to draw suitable conclusion able manner	record data (or demonstrate the phenomena if
An opposition should show that • the opponent challenged the reporter's u appropriate mathematics presented • the c opponent appreciated and highlighted the s	inderstanding of the presented concepts, theories opponent critiqued the experimental technique use	and <i>principles</i> • the opponent understood the ed and questioned the <i>validity</i> of the <i>data</i> • the
A review should show that:		
important aspects (especially the controver	ctive summary of the performances the reporter rsial ones) • the reviewer's personal opinion was in on-trivial and demonstrated, where possible, the red by the reporter and the opponent	n evidence (not just superficial observations)
 The reporter, opponent and reviewer Consider the following suggestions to Select each partial grade from each se 	consists of a partial grade for <i>physics</i> , <i>present</i> each <i>start with 5 points</i> . add to or <i>deduct</i> from the initial <i>5 points</i> . action and <i>write it</i> in the corresponding box. no questions were posed or not finding shortcomes.	
Rep.: Nigeria 5	Opp.: Bulgaria 5	Rev.: Brazil. 5
Physics ±3	Physics ±3 + (Physics ±3
☐ Correct and relevant physics	☐ Correct and relevant physics	☐ Correct and relevant physics
☐ Scientific approach	☐ Scientific approach	☐ Scientific approach
☐ Validity of conclusions	☐ Validity of conclusions	☐ Validity of conclusions
☐ Accurate answers	☐ Accurate answers	☐ Accurate answers
Presentation ±1 o	Presentation ±1	Presentation ±1
☐ Clear and understandable	☐ Clear and understandable	☐ Clear and understandable
☐ Appropriate manner	☐ Appropriate manner	Appropriate manner
☐ Overall impression	Overall impression	Overall impression
Reporter ±1	Opponent ±1	Paviouer +1
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion
☐ Structure	Shows the strong and weak points	Expresses own opinion about
Explanation of formulae and symbols	of the report Finds shortcomings or errors in	topics presented or discussed Relevance of questions to both the
Appropriate models, conformity of dimensions	the report Relevance of the questions	reporter and the opponent Draws attention to points missed
Slides, on-site experiments, audio, video, as appropriate	☐ Contribution to the discussion	by the reporter or the opponent
References, proper citations of ideas and input of others		This sheet will be collected by the

2 Final Grade: Reporter Final Grade: Opponent

☐ Novelty of the report

☐ Contribution to the discussion

Final Grade: Reviewer D

Revised after IOC feedback and approved by EC on 2011-11-03

do not bend

fight assistant, so we can scan it and archive your partial grades - please

	Fight (Round no.): Stage:	Z Problem no.:
Scoring Guidelines	Juror: Fugen With Signature:	62. Vov

• a presentation of the appropriate concepts, theories and principles of the problem • an explanation of the observed phenomena • an application of appropriate mathematics • reasonable experimental technique to gather and record data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings to draw suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner

An opposition should show that:

• the opponent challenged the reporter's understanding of the presented concepts, theories and principles • the opponent understood the appropriate mathematics presented • the opponent critiqued the experimental technique used and questioned the validity of the data • the opponent appreciated and highlighted the strengths and weaknesses of the report

A review should show that:

Final Grade: Reporter

- the reviewer succeeded in giving an objective summary of the performances the reporter and opponent the reviewer appreciated the important aspects (especially the controversial ones) • the reviewer's personal opinion was in evidence (not just superficial observations) • such personal opinions were informative, non-trivial and demonstrated, where possible, the reviewer's understanding of concepts, theories, principles and appropriate mathematics used by the reporter and the opponent
- The grade for each of the three teams consists of a partial grade for *physics*, *presentation* and for their *specific role*.
- The reporter, opponent and reviewer each start with 5 points.

 Select each partial grade from each sec 	add to or deduct from the initial 5 points. tion and write it in the corresponding box. o questions were posed or not finding shortco	omings if there were none to find.
Rep.: Nigeria 5	Opp.: Bulgaria 5	Rev.: B10261 5
Physics ±3	Physics ±3	Physics ±3
Correct and relevant physics	Correct and relevant physics	☐ Correct and relevant physics
☐ Scientific approach	Scientific approach	☐ Scientific approach
☐ Validity of conclusions	☐ Validity of conclusions	☐ Validity of conclusions
☐ Accurate answers	☐ Accurate answers	☐ Accurate answers
Presentation ±1	Presentation ±1	Presentation ±1
Clear and understandable	☐ Clear and understandable	☐ Clear and understandable
☐ Appropriate manner	☐ Appropriate manner	☐ Appropriate manner
Overall impression	Overall impression	☐ Overall impression
Reporter ±1	Opponent ±1	Reviewer ±1
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion
☐ Structure	☐ Shows the strong and weak points	Expresses own opinion about
☐ Explanation of formulae and	of the report	topics presented or discussed
symbols	Finds shortcomings or errors in	☐ Relevance of questions to both the
Appropriate models, conformity of dimensions	the report Relevance of the questions	reporter and the opponent Draws attention to points missed
Slides, on-site experiments, audio, video, as appropriate	Contribution to the discussion	Draws attention to points missed by the reporter or the opponent
References, proper citations of ideas and input of others		This sheet will be collected by the fight assistant, so we can scan it and
☐ Novelty of the report		fight assistant, so we do archive your partial grades – please
Contribution to the discussion		do not bend

Final Grade: Opponent

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Fight (R	ound no.):	3_	Room:	<u>F</u>	Stage:	3_	Problem	no.:	5
Juror:	Nicolas	Chev	alie	Signature	a:		Wi.		7

A report should include	should inclu	ude:
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• a presentation of the appropriate concepts, theories and principles of the problem • an explanation of the observed phenomena • an application of appropriate mathematics • reasonable experimental technique to gather and record data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings to draw suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner

An opposition should show that:

• the opponent *challenged* the *reporter's understanding* of the presented *concepts*, *theories* and *principles* • the opponent understood the *appropriate mathematics* presented • the opponent *critiqued* the *experimental technique* used and questioned the *validity* of the *data* • the opponent appreciated and highlighted the *strengths and weaknesses* of the report

A review should show that:

- the reviewer succeeded in giving an *objective summary* of the performances the *reporter* and *opponent* the reviewer appreciated the *important aspects* (especially the *controversial* ones) the reviewer's *personal opinion* was in evidence (*not* just *superficial observations*) such personal opinions were *informative*, *non-trivial* and demonstrated, where possible, the reviewer's *understanding* of *concepts*, *theories*, *principles and appropriate mathematics* used by the reporter and the opponent
- The grade for each of the three teams consists of a partial grade for physics, presentation and for their specific role.
- The reporter, opponent and reviewer each start with 5 points.
- Consider the following *suggestions* to *add* to or *deduct* from the initial *5 points*.
- Select each partial grade from each section and write it in the corresponding box.

 Don't punish missing 'answers' when no questions were posed or not finding shortcomings if there were none to find. 										
Rep.: Bulgaria 5	Opp.: Brazil 5	Rev.: Nigeria 5								
Physics ±3 Correct and relevant physics my fix	Physics ±3 Correct and relevant physics	Physics ±3 Correct and relevant physics								
☐ Scientific approach ☐ Validity of conclusions ☐ Accurate answers	Scientific approach Validity of conclusions Accurate answers	☐ Scientific approach ☐ Validity of conclusions ☐ Accurate answers								
Presentation ±1	Presentation ±1	Presentation ±1								
☐ Clear and understandable☐ Appropriate manner☐ Overall impression	☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression	☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression								
Reporter ±1 -0.5	Opponent ±1	Reviewer ±1								
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion								
Structure	Shows the strong and weak points of the report	Expresses own opinion about topics presented or discussed								
Explanation of formulae and symbols	Finds shortcomings or errors in the report	Relevance of questions to both the reporter and the opponent								
☐ Appropriate models, conformity of dimensions	Relevance of the questions	Draws attention to points missed by the reporter or the opponent								
☐ Slides, on-site experiments, audio, video, as appropriate	☐ Contribution to the discussion									
References, proper citations of ideas and input of others		This sheet will be collected by the fight assistant, so we can scan it and								
Novelty of the report		archive your partial Blades								
Contribution to the discussion		do not bend								

Final Grade: Opponent

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						Sans B			_					_	-	~	100	40000	dilling

Fight (Round no.):	3 Room: _	<i>F</i> Stage	: <u> </u>	_ Problem no.: _	5
Juror: Tu che	nyhou s	ignature:	Tu	chengho	21_

A	report	should	include:

• a presentation of the appropriate concepts, theories and principles of the problem • an explanation of the observed phenomena • an application of appropriate mathematics • reasonable experimental technique to gather and record data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings to draw suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner

An opposition should show that:

• the opponent *challenged* the *reporter's understanding* of the presented *concepts, theories* and *principles* • the opponent understood the *appropriate mathematics* presented • the opponent *critiqued* the *experimental technique* used and questioned the *validity* of the *data* • the opponent appreciated and highlighted the *strengths and weaknesses* of the report

A review should show that:

• the reviewer succeeded in giving an *objective summary* of the performances the *reporter* and *opponent* • the reviewer appreciated the *important aspects* (especially the *controversial* ones) • the reviewer's *personal opinion* was in evidence (*not* just *superficial observations*) • such personal opinions were *informative*, *non-trivial* and demonstrated, where possible, the reviewer's *understanding* of *concepts*, *theories*, *principles* and *appropriate mathematics* used by the reporter and the opponent

 The reporter, opponent and reviewer Consider the following suggestions to Select each partial grade from each see 	consists of a partial grade for <i>physics, presen</i> each <i>start with 5 points</i> . <i>add</i> to or <i>deduct</i> from the initial <i>5 points</i> . ction and <i>write it</i> in the corresponding box. to questions were posed or not finding shortc	
Rep.: Bulgaria 5	Opp.: Brazil 5	Rev.: Nigeria. 5
Physics ±3 Correct and relevant physics Scientific approach Validity of conclusions	Physics ±3 Correct and relevant physics Scientific approach	Physics ±3 ☐ Correct and relevant physics ☐ Scientific approach
Accurate answers Presentation ±1	☐ Validity of conclusions ☐ Accurate answers Presentation ±1	☐ Validity of conclusions ☐ Accurate answers Presentation ±1 + (
☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression	☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression	☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression
Reporter ±1	Opponent ±1	Reviewer ±1 + (
technique(s) Structure Explanation of formulae and symbols Appropriate models, conformity	solution Shows the strong and weak points of the report Finds shortcomings or errors in the report	report and discussion Expresses own opinion about topics presented or discussed Relevance of questions to both the reporter and the opponent
of dimensions Slides, on-site experiments, audio, video, as appropriate	☐ Relevance of the questions ☐ Contribution to the discussion	Draws attention to points missed by the reporter or the opponent
 □ References, proper citations of ideas and input of others □ Novelty of the report □ Contribution to the discussion 		This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades – please do not bend
Final Grade: Reporter	Final Grade: Opponent Revised a	Final Grade: Reviewer fter IOC feedback and approved by EC on 2011-11-03

Scoring Guidelii	Fight (Round no.): 3 Room North Fugely Voit	n: F Stage: Problem no.: 5
application of appropriate mathematics • r	ets, theories and principles of the problem • an eleasonable experimental technique to gather and experimental findings to draw suitable conclusions dable manner	record data (or demonstrate the phenomena if
An opposition should show that: • the opponent challenged the reporter's unappropriate mathematics presented • the opponent appreciated and highlighted the st	nderstanding of the presented concepts, theories pponent critiqued the experimental technique use	and <i>principles</i> • the opponent understood the data • the
important aspects (especially the controvers	ctive summary of the performances the reporter sial ones) • the reviewer's personal opinion was in the training and demonstrated, where possible, the red by the reporter and the opponent	evidence (not just superficial observations)
 The reporter, opponent and reviewer Consider the following suggestions to Select each partial grade from each set 	consists of a partial grade for <i>physics, presen</i> each <i>start with 5 points</i> . add to or <i>deduct</i> from the initial <i>5 points</i> . ction and <i>write it</i> in the corresponding box. to questions were posed or not finding shortc	
Rep.: Bulgana 5	Opp.: Blazi 5	Rev.: Nigeria 5
Physics ±3	Physics ±3	Physics ±3
Correct and relevant physics	Correct and relevant physics	☐ Correct and relevant physics
Scientific approach	☐ Scientific approach	Scientific approach
☐ Validity of conclusions ☐ Accurate answers	☐ Validity of conclusions ☐ Accurate answers	☐ Validity of conclusions☐ Accurate answers
Presentation ±1	Presentation ±1	Presentation ±1
Clear and understandable	☐ Clear and understandable	☐ Clear and understandable
☐ Appropriate manner	☐ Appropriate manner	☐ Appropriate manner
Overall impression	Overall impression	Overall impression
Reporter ±1	Opponent ±1	Reviewer ±1
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion
☐ Structure	☐ Shows the strong and weak points	☐ Expresses own opinion about
Explanation of formulae and symbols	of the report Finds shortcomings or errors in	topics presented or discussed Relevance of questions to both the
Appropriate models, conformity of dimensions	the report Relevance of the guestions	reporter and the opponent

☐ Relevance of the questions

☐ Contribution to the discussion

0 Final Grade: Reporter Final Grade: Opponent

Slides, on-site experiments, audio, video, as appropriate

References, proper citations of ideas and input of others

☐ Contribution to the discussion

☐ Novelty of the report

Final Grade: Reviewer

Revised after IOC feedback and approved by EC on 2011-11-03

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☐ Draws attention to points missed by the reporter or the opponent

This sheet will be collected by the

fight assistant, so we can scan it and archive your partial grades - please

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	Fight (Round no):	m:Stage:Problem no.:5
Scoring Guideli	nes Juror: Yudit Juy	
A report should include:		1) 1)
• a presentation of the appropriate conce application of appropriate mathematics •	pts, theories and principles of the problem • an reasonable experimental technique to gather and experimental findings to draw suitable conclusindable manner	record data (or demanstrate the phenomena if
An opposition should show that • the opponent challenged the reporter's a appropriate mathematics presented • the opponent appreciated and highlighted the s	<i>understanding</i> of the presented <i>concepts, theories</i> opponent <i>critiqued</i> the <i>experimental technique</i> us	and <i>principles</i> • the opponent understood the ed and questioned the <i>validity</i> of the <i>data</i> • the
important aspects (especially the controve	ective summary of the performances the reporter rsial ones) • the reviewer's personal opinion was in on-trivial and demonstrated, where possible, the indeed by the reporter and the opponent	n evidence (not just superficial observations)
 The reporter, opponent and reviewer Consider the following suggestions to Select each partial grade from each se Don't punish missing 'answers' when 	add to or deduct from the initial 5 points. ection and write it in the corresponding box. no questions were posed or not finding shorts	comings if there were none to find.
Rep.: Buigunia 5	Opp.: Fraisic 5	Rev.: Nigoria 5
Physics ±3	Physics ±3	Physics ±3
Correct and relevant physics	Correct and relevant physics	☐ Correct and relevant physics
Scientific approach	☐ Scientific approach	☐ Scientific approach
☐ Validity of conclusions ☐ Accurate answers	☐ Validity of conclusions	☐ Validity of conclusions
	☐ Accurate answers	☐ Accurate answers
Presentation ±1	Presentation ±1	Presentation ±1
Clear and understandable	Clear and understandable	☐ Clear and understandable
☐ Appropriate manner	☐ Appropriate manner	Appropriate manner
Overall impression	☐ Overall impression	Overall impression
eporter ±1	Opponent ±1	Reviewer ±1
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion
] Structure	Shows the strong and weak points	☐ Expresses own opinion about
Explanation of formulae and symbols	of the report Finds shortcomings or errors in	topics presented or discussed Relevance of questions to both the
Appropriate models, conformity of dimensions	the report	reporter and the opponent
Slides, on-site experiments, audio, video, as appropriate	☐ Relevance of the questions ☐ Contribution to the discussion	by the reporter or the opponent
References, proper citations of ideas and input of others		This sheet will be collected by the
Novelty of the report		This sheet will be consorn it and fight assistant, so we can scan it and archive your partial grades — please
Contribution to the discussion		do not bend

Final Grade: Reporter Final Grade: Opponent

Final Grade: Reviewer



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				in and the				_		-				-	

Fight (Round no.): _	Room:	Stage:	Problem no.:	\supset
	p		77 /	
Juror: RA 1832	への7号と	Signature:	A let of management	

• a presentation of the appropriate concepts, theories and principles of the problem • an explanation of the observed phenomena • an application of appropriate mathematics • reasonable experimental technique to gather and record data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings to draw suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner

An opposition should show that:

• the opponent *challenged* the *reporter's understanding* of the presented *concepts, theories* and *principles* • the opponent understood the *appropriate mathematics* presented • the opponent *critiqued* the *experimental technique* used and questioned the *validity* of the *data* • the opponent appreciated and highlighted the *strengths and weaknesses* of the report

A review should show that:

- the reviewer succeeded in giving an *objective summary* of the performances the *reporter* and *opponent* the reviewer appreciated the *important aspects* (especially the *controversial* ones) the reviewer's *personal opinion* was in evidence (*not* just *superficial observations*) such personal opinions were *informative*, *non-trivial* and demonstrated, where possible, the reviewer's *understanding* of *concepts*, *theories*, *principles* and *appropriate mathematics* used by the reporter and the opponent
- The grade for each of the three teams consists of a partial grade for physics, presentation and for their specific role.
- The reporter, opponent and reviewer each start with 5 points.
- Consider the following *suggestions* to *add* to or *deduct* from the initial *5 points*.
- Select each partial grade from each section and write it in the corresponding box.

 Don't punish missing 'answers' when no questions were posed or not finding shortcomings if there were none to find. 										
Rep.: Bulyuria 5	Opp.: Brazil 5	Rev.: Nigeria 5								
Physics ±3	Physics ±3	Physics ±3								
Correct and relevant physics	☐ Correct and relevant physics	☐ Correct and relevant physics								
Scientific approach	☐ Scientific approach	☐ Scientific approach								
☐ Validity of conclusions	☐ Validity of conclusions	☐ Validity of conclusions								
☐ Accurate answers	☐ Accurate answers	☐ Accurate answers								
Presentation ±1	Presentation ±1	Presentation ±1								
☐ Clear and understandable	☐ Clear and understandable	☐ Clear and understandable								
☐ Appropriate manner	☐ Appropriate manner	☐ Appropriate manner								
Overall impression	Overall impression	☐ Overall impression								
grand amilitary internal and an advantage of the	\$Memorane and an analysis and a second and a	######################################								
Reporter ±1	Opponent ±1	Reviewer ±1								
Reporter ±1 Quality of experimental technique(s)	Opponent ±1 Response to the reporter's solution	Reviewer ±1 Provides a thorough review of report and discussion								
	Response to the reporter's solution Shows the strong and weak points	Provides a thorough review of report and discussion								
☐ Quality of experimental technique(s) ☐ Structure	Response to the reporter's	Provides a thorough review of report and discussion								
☐ Quality of experimental technique(s) ☐ Structure ☐ Explanation of formulae and symbols	Response to the reporter's solution Shows the strong and weak points	Provides a thorough review of report and discussion Expresses own opinion about								
☐ Quality of experimental technique(s) ☐ Structure ☐ Explanation of formulae and	Response to the reporter's solution Shows the strong and weak points of the report Finds shortcomings or errors in	Provides a thorough review of report and discussion Expresses own opinion about topics presented or discussed Relevance of questions to both the reporter and the opponent Draws attention to points missed								
☐ Quality of experimental technique(s) ☐ Structure ☐ Explanation of formulae and symbols ☐ Appropriate models, conformity	Response to the reporter's solution Shows the strong and weak points of the report Finds shortcomings or errors in the report	Provides a thorough review of report and discussion Expresses own opinion about topics presented or discussed Relevance of questions to both the reporter and the opponent Draws attention to points missed by the reporter or the opponent								
☐ Quality of experimental technique(s) ☐ Structure ☐ Explanation of formulae and symbols ☐ Appropriate models, conformity of dimensions ☐ Slides, on-site experiments, audio.	Response to the reporter's solution Shows the strong and weak points of the report Finds shortcomings or errors in the report Relevance of the questions	Provides a thorough review of report and discussion Expresses own opinion about topics presented or discussed Relevance of questions to both the reporter and the opponent Draws attention to points missed by the reporter or the opponent								
☐ Quality of experimental technique(s) ☐ Structure ☐ Explanation of formulae and symbols ☐ Appropriate models, conformity of dimensions ☐ Slides, on-site experiments, audio, video, as appropriate ☐ References, proper citations of	Response to the reporter's solution Shows the strong and weak points of the report Finds shortcomings or errors in the report Relevance of the questions	Provides a thorough review of report and discussion Expresses own opinion about topics presented or discussed Relevance of questions to both the reporter and the opponent Draws attention to points missed by the reporter or the opponent								
☐ Quality of experimental technique(s) ☐ Structure ☐ Explanation of formulae and symbols ☐ Appropriate models, conformity of dimensions ☐ Slides, on-site experiments, audio, video, as appropriate ☐ References, proper citations of ideas and input of others	Response to the reporter's solution Shows the strong and weak points of the report Finds shortcomings or errors in the report Relevance of the questions	Provides a thorough review of report and discussion Expresses own opinion about topics presented or discussed Relevance of questions to both the reporter and the opponent Draws attention to points missed by the reporter or the opponent								

Final Grade: Opponent

Scoring Guidelines

Fight (Round no.): R	Room: 🛨	_Stage:	Problem no.:
Juror: Lo Reps be	✓ Signatur	·e:	BES

A report should include:

• a presentation of the appropriate concepts, theories and principles of the problem • an explanation of the observed phenomena • an application of appropriate mathematics • reasonable experimental technique to gather and record data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings to draw suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner

An opposition should show that:

• the opponent *challenged* the *reporter's understanding* of the presented *concepts, theories* and *principles* • the opponent understood the *appropriate mathematics* presented • the opponent *critiqued* the *experimental technique* used and questioned the *validity* of the *data* • the opponent appreciated and highlighted the *strengths and weaknesses* of the report

A review should show that:

Final Grade: Reporter

- the reviewer succeeded in giving an *objective summary* of the performances the *reporter* and *opponent* the reviewer appreciated the *important aspects* (especially the *controversial* ones) the reviewer's *personal opinion* was in evidence (*not* just *superficial observations*) such personal opinions were *informative*, *non-trivial* and demonstrated, where possible, the reviewer's *understanding* of *concepts*, *theories*, *principles* and *appropriate mathematics* used by the reporter and the opponent
- The grade for each of the three teams consists of a partial grade for physics, presentation and for their specific role.
- The reporter, opponent and reviewer each start with 5 points.
- Consider the following *suggestions* to *add* to or *deduct* from the initial *5 points*.
- Select each partial grade from each section and write it in the corresponding box.
- Don't punish missing 'answers' when no questions were posed or not finding shortcomings if there were none to find.

Rep.:	Opp.:	Rev.:
5	5	Nev 5
Physics ±3	Physics ±3	Physics ±3
☐ Correct and relevant physics☐ Scientific approach☐ Validity of conclusions☐ Accurate answers	 ☐ Correct and relevant physics ☐ Scientific approach ☐ Validity of conclusions ☐ Accurate answers 	 ☐ Correct and relevant physics ☐ Scientific approach ☐ Validity of conclusions ☐ Accurate answers
Presentation ±1	Presentation ±1	Presentation ±1
☐ Clear and understandable☐ Appropriate manner☐ Overall impression	☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression	☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression
Reporter ±1	Opponent ±1	Reviewer ±1
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion
☐ Structure☐ Explanation of formulae and	Shows the strong and weak points of the report	Expresses own opinion about topics presented or discussed
Li explanation of formulae and		topics presented of discussed
symbols	Finds shortcomings or errors in the report	☐ Relevance of questions to both the
symbols Appropriate models, conformity of dimensions	the report Relevance of the questions	 Relevance of questions to both the reporter and the opponent Draws attention to points missed
symbols Appropriate models, conformity of dimensions Slides, on-site experiments, audio, video, as appropriate	the report	 Relevance of questions to both the reporter and the opponent Draws attention to points missed by the reporter or the opponent
symbols Appropriate models, conformity of dimensions Slides, on-site experiments, audio.	the report Relevance of the questions	Relevance of questions to both the reporter and the opponent Draws attention to points missed by the reporter or the opponent This sheet will be collected by the
symbols Appropriate models, conformity of dimensions Slides, on-site experiments, audio, video, as appropriate	the report Relevance of the questions	 Relevance of questions to both the reporter and the opponent Draws attention to points missed by the reporter or the opponent

Final Grade: Opponent