	Fight (Round no.): Room:K	Stage: Problem no.:
Scoring Guidelines	Juror: J. BALGMBE Signature	e: KLB.

	Fight (Round no.): Roon	n:KStage: Problem no.:l					
Scoring Guidelin	1es Juror: J. BALCAMBE	Signature: KB					
application of appropriate mathematics • rea	, theories and principles of the problem • an e isonable experimental technique to gather and i perimental findings to draw suitable conclusionable manner	record data (or demonstrate the phenomena if					
An opposition should show that: • the opponent challenged the reporter's und appropriate mathematics presented • the oppoponent appreciated and highlighted the stre	oonent <i>critiqued</i> the <i>experimental technique</i> use	and <i>principles</i> • the opponent understood the d and questioned the <i>validity</i> of the <i>data</i> • the					
important aspects (especially the controversic	ve summary of the performances the reporter of ones) • the reviewer's personal opinion was intrivial and demonstrated, where possible, the reby the reporter and the opponent	n evidence (not just superficial observations) .					
 The reporter, opponent and reviewer ea Consider the following suggestions to a Select each partial grade from each sections 							
Rep.: Kerys 5	Opp.: Creck Rep. 5	Rev.: Switzerland 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 ans						

/ 5	_		5	AND THE PROPERTY OF THE PROPER
Physics ±3		Physics ±3		Physics ±3
\square Correct and relevant physics		☐ Correct and relevant ph	ysics	☐ Correct and
☐ Scientific approach		☐ Scientific approach		☐ Scientific a
☐ Validity of conclusions		☐ Validity of conclusions		☐ Validity of o
☐ Accurate answers		☐ Accurate answers		☐ Accurate ar
Presentation ±1		Presentation ±1	1	Presentatio
☐ Clear and understandable			le	☐ Clear and u
☐ Appropriate manner		☐ Appropriate manner		☐ Appropriate
Overall impression		☐ Overall impression		☐ Overall imp
Reporter ± 1		Opponent ±1		Reviewer ±1
Quality of experimental technique(s)		Response to the reporte solution	r's	Provides a treport and o
☐ Structure		☐ Shows the strong and we	eak points	☐ Expresses o

☐ Accurate answers	
- Accarate answers	☐ Accurate answers
Presentation ±1 /	Presentation ±1 /
☐ Clear and understandable	☐ Clear and understandable
☐ Appropriate manner	☐ Appropriate manner
Overall impression	Overall impression
Opponent ±1	Reviewer ±1 1/2
Response to the reporter's solution	Provides a thorough review of report and discussion
☐ Shows the strong and weak points	☐ Expresses own opinion about
of the report	topics presented or discussed
Finds shortcomings or errors in	Relevance of questions to both the
pinomag	reporter and the opponent
· ·	Draws attention to points missed by the reporter or the opponent
Contribution to the discussion	by the reporter of the opponent
	This sheet will be collected by the
	This sheet will be so that the fight assistant, so we can scan it and archive your partial grades – please
	do not bend
	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

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

Final Grade: Reporter

Final Grade: Opponent

	Fight (Pound no.)	F Book	n:k_ Stage: Problem	4
Scoring Guideli			Stage: Problem Signature: Problem	no.: <u> </u>
	Julion.		_ Signature.	4
A report should include: • a presentation of the appropriate concey application of appropriate mathematics • appropriate) • linking of theoretical and complex ideas in an effective and understan	reasonable experimental technique experimental findings to draw suit	to <i>gather</i> and	record data (or demonstrate the pheno	omena if
An opposition should show that • the opponent challenged the reporter's unappropriate mathematics presented • the copponent appreciated and highlighted the s	nderstanding of the presented conc opponent critiqued the experimental	' technique use	and <i>principles</i> • the opponent understed and questioned the <i>validity</i> of the <i>da</i>	ood the
A review should show that: • the reviewer succeeded in giving an objeimportant aspects (especially the controver	ctive summary of the performances	the reporter	and opponent • the reviewer apprecia	ited the
such personal opinions were <i>informative</i> , <i>ne principles</i> and <i>appropriate</i> mathematics use	on-trivial and demonstrated, where	possible, the r	eviewer's <i>understanding</i> of <i>concepts</i> , t.	heories,
 The grade for each of the three teams The reporter, opponent and reviewer Consider the following suggestions to Select each partial grade from each se Don't punish missing 'answers' when 	each start with 5 points. add to or deduct from the initial action and write it in the correspo	5 points.		
Rep.: Kaya 5	Opp.: Czech Republi	5	Rev.: Swikesland	5
Physics ±3 2	Physics ±3		Physics ±3	+ 1
Correct and relevant physics	☐ Correct and relevant pl	nysics	☐ Correct and relevant phys	ics
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	0	Presentation ±1	+(
Clear and understandable	Clear and understandal	ole	☐ Clear and understandable	
☐ Appropriate manner	☐ Appropriate manner		Appropriate manner	
Overall impression	☐ Overall impression		Overall impression	
Reporter ±1	Opponent ±1	name of	Reviewer ±1	÷(
Quality of experimental technique(s)	Response to the report solution	er's	Provides a thorough review report and discussion	v of
☐ Structure	Shows the strong and w	eak points	☐ Expresses own opinion abo	out
Explanation of formulae and symbols	of the report Finds shortcomings or e	rrors in	topics presented or discuss Relevance of questions to	both th
Appropriate models, conformity of dimensions	the report Relevance of the questi	ons	reporter and the opponent Draws attention to points in by the reporter or the opponent	
Slides, on-site experiments, audio, video, as appropriate	☐ Contribution to the disc	ussion		
References, proper citations of ideas and input of others			This sheet will be collected be fight assistant, so we can scan	
☐ Novelty of the report			fight assistant, so we consider archive your partial grades —	please

Final Grade: Opponent Final Gr

 \square Contribution to the discussion

Final Grade: Reporter

Final Grade: Reviewer

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

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Scoring Guidelines	S	CO	r	ĺľ		g	G	U		d	e			n	e	5	
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Fight (Round no.): _	<u>\$</u>	Room:	<u>k</u>	_Stage: _	4 [*] THANGERON	Problem	no.: _	- Commence
Juror: KIRSTENS	TADE	RMANAS	ignatur	re: //_/	2 K	Teal		

• 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.: <u>Kenia</u> 5	Opp.: Czech Rep. 5	Rev.: Zwipelcend 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	Expresses own opinion about topics presented or discussed					
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					
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, 90 No archive your partial grades – please					
Contribution to the discussion		do not bend					
and the same of th	4	photosococococococococococococococococococ					

Final Grade: Reporter

Final Grade: Opponent

Final Grade: Reviewer

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

		Fight (Round no.):
Scoring	Guidelines	luror: Yung-Yuan

K Stage:

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.: Paul Gatumbu 5	Opp.: Anh Vale Quy 5	Rev.: Pathk Leigger haut. Switzerland. 5				
Physics ±3	Physics ±3 -1/2	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				
\square Clear and understandable	☐ Clear and understandable	☐ Clear and understandable				
\square 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	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				
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 to archive your partial grades – please				
Contribution to the discussion		do not bend				

Final Grade: Opponent



Final Grade: Reviewer

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

Scoring Guidelines

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Scoring Guidelii	MAR		n: K Stage: Pro Signature: DS	blem no.:
A report should include: • a presentation of the appropriate conception of appropriate mathematics • rappropriate) • linking of theoretical and excomplex ideas in an effective and understand	easonable experimental techniqu e e xperimental findings to draw su	e to <i>gather</i> and	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 con pponent critiqued the experiment	al technique use	and <i>principles</i> • the opponent ured and questioned the <i>validity</i> of t	nderstood the the <i>data</i> • the
A review should show that: • the reviewer succeeded in giving an object important aspects (especially the controver. such personal opinions were informative, no principles and appropriate mathematics use	sial ones) • the reviewer's person on-trivial and demonstrated, wher	a l opinion was in e possible, the r	n evidence (<i>not</i> just <i>superficial ob</i>	oservations) •
The grade for each of the three teams The reporter, opponent and reviewer Consider the following suggestions to Select each partial grade from each se Don't punish missing 'answers' when r	each start with 5 points. add to or deduct from the initi ction and write it in the corresp	al 5 points . ponding box.		
Rep.: Kenya 5	Opp.: Cred	5	Rev.: Swiss	5
hysics ±3	Physics ±3		Physics ±3	+2
Correct and relevant physics	☐ Correct and relevant	physics	☐ Correct and relevant	physics
Scientific approach	☐ Scientific approach		☐ Scientific approach	
Validity of conclusions	☐ Validity of conclusion	S	☐ Validity of conclusion	S
Accurate answers	☐ Accurate answers		☐ Accurate answers	
resentation ±1	Presentation ±1	0	Presentation ±1	0
Clear and understandable	☐ Clear and understand	able	☐ Clear and understand	lable
l Appropriate manner	☐ Appropriate manner		☐ Appropriate manner	
Overall impression	☐ Overall impression		☐ Overall impression	

Accurate answers

Scientific approach

Validity of conclusions

Rep .: Keny a

Physics ±3

Presentation ±1 ☐ Clear and understandable ☐ Appropriate manner

☐ Correct and relevant physics

Overall impression

Reporter ±1

Quality of experimental

technique(s) VOOR ☐ Structure

☐ Explanation of formulae and symbols very nin ple

☐ Appropriate models, conformity of dimensions

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

References, proper citations of ideas and input of others

Contribution to the discussion

Phy 日(- \square Pre \Box \angle Response to the reporter's

Opponent ±1

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: Opponent

Final Grade: Reviewer

Final Grade: Reporter

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

		e com
Scoring Guidelii	noc .	m: K Stage: Problem no.: Signature: Chambery Park
application of appropriate mathematics • r	ets, theories and principles of the problem • an a easonable experimental technique to gather and experimental findings to draw suitable conclusion 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 ed and questioned the <i>validity</i> of the <i>data</i> • the
important aspects (especially the controvers	ctive summary of the performances the reporter sial ones) • the reviewer's personal opinion was in the reviewer's personal opinion was in the reviewer 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 see 	consists of a partial grade for <i>physics</i> , <i>presen</i> each <i>start with 5 points</i> . add to or deduct from the initial <i>5 points</i> . ction and write it in the corresponding box. no questions were posed or not finding shortc	
Rep.: Kenya 5	Opp.: Czech Rep 5	Rev.: Switzerland 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 ☐ Correct and relevant physics ☐ To	Physics ±3 Correct and relevant physics 1.0 Scientific approach Validity of conclusions Accurate answers
Presentation ±1 Clear and understandable Appropriate manner Overall impression	Presentation ±1	Presentation ±1 ☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression
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
☐ Structure☐ Explanation of formulae and symbols	Shows the strong and weak points of the report Finds shortcomings or errors in	Expresses own opinion about topics presented or discussed Relevance of questions to both the
 □ Appropriate models, conformity of dimensions □ Slides, on-site experiments, audio, video, as appropriate 	the report - 0.5 Relevance of the questions Contribution to the discussion	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		This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades – please
☐ Contribution to the discussion		do not bend

Final Grade: Opponent

Final Grade: Reporter

Final Grade: Reviewer

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

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J		v	ı	ø	ø	ø	9	-			9 /	Ĭ		Ø		#)
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Fight	(Round no	.): <u>5</u>	_Room: _	<u>k</u> s	Stage: _	2	Problem	no.:	1	
Juror	J.6	Map	MBES	ignature:	: 18	1	6	The state of the s		

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.

 Consider the following suggestions to add to or deduct from the initial 3 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.: Ceuch Rep. 5	Opp.: Switzerled. 5	Rev.: Kenga 5									
Physics ±3	Physics ±3	Physics ±3 -2									
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 1/2	Opponent ±1	Reviewer ±1									
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion									
☐ Structure											
Li Structure	☐ Shows the strong and weak points	☐ Expresses own opinion about									
☐ Explanation of formulae and	Shows the strong and weak points of the report	Expresses own opinion about topics presented or discussed									
Explanation of formulae and symbols	☐ Shows the strong and weak points of the report ☐ Finds shortcomings or errors in the report	 Expresses own opinion about topics presented or discussed Relevance of questions to both the reporter and the opponent 									
☐ Explanation of formulae and	of the report Finds shortcomings or errors in	topics presented or discussed Relevance of questions to both the reporter and the opponent Draws attention to points missed									
Explanation of formulae and symbolsAppropriate models, conformity	of the report Finds shortcomings or errors in the report	topics presented or discussed Relevance of questions to both the									
 Explanation of formulae and symbols Appropriate models, conformity of dimensions Slides, on-site experiments, audio. 	of the report Finds shortcomings or errors in the report Relevance of the questions	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									
 Explanation of formulae and symbols Appropriate models, conformity of dimensions Slides, on-site experiments, audio, video, as appropriate 	of the report Finds shortcomings or errors in the report Relevance of the questions	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									
 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 	of the report Finds shortcomings or errors in the report Relevance of the questions	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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						mudif								-	_			-	-

	Fight (Round no.): Roor	m: Stage: Problem no.:
Scoring Guidelin	1es Juror: Martinheomhara	2/ Signature: /coulout
application of appropriate mathematics • re	ts, theories and principles of the problem • an e easonable experimental technique to gather and experimental findings to draw suitable conclusion dable manner	record data (or demonstrate the phenomena if
An opposition should show that: • the opponent challenged the reporter's un appropriate 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 ed and questioned the <i>validity</i> of the <i>data</i> • the
important aspects (especially the controvers	tive summary of the performances the reporter sial 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 sec 	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> . Ition and <i>write it</i> in the corresponding box. The opening of the present of the presence of	
Rep.: Czech Rep. 5	Opp.: Svikesland 5	Rev.: Kenya 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 Clear and understandable Appropriate manner Overall impression	Presentation ±1 ☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression	Presentation ±1 ☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression
Reporter ±1	Opponent ±1	Reviewer ±1 -0.5
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 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 fight assistant, so we can scan it and
☐ Novelty of the report		archive your partial grades
☐ Contribution to the discussion		do not bend

Final Grade: Opponent

Final Grade: Reviewer

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

Scoring Guidelin	Fight (Round no.): 5 Room Nes Juror: KIRSTEN STANFORM	m: <u>k</u> Stage: <u>Problem no.:</u>
application of appropriate mathematics • r	ets, theories and principles of the problem • an easonable experimental technique to gather and experimental findings to draw suitable conclusions.	explanation of the observed phenomena • an 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 ed and questioned the <i>validity</i> of the <i>data</i> • the
important aspects (especially the controvers	ctive summary of the performances the reporter sial ones) • the reviewer's personal opinion was in the reporter 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 set 	consists of a partial grade for <i>physics, presen</i> each <i>start with 5 points</i> . add to or deduct from the initial <i>5 points</i> . ction and write it in the corresponding box. no questions were posed or not finding shortc	
Rep.: Gech rp 5	Opp.:Surtuland 5	Rev.: Kenya 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 Clear and understandable Appropriate manner Overall impression	Presentation ±1	Presentation ±1 ☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression
Reporter ±1 Quality of experimental technique(s)	Opponent ±1 Response to the reporter's solution	Reviewer ±1
☐ Structure ☐ Explanation of formulae and symbols	☐ Shows the strong and weak points of the report☐ Finds shortcomings or errors in the report	Expresses own opinion about topics presented or discussed Relevance of questions to both the reporter and the opponent
 □ Appropriate models, conformity 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: Opponent Final Grade: Reviewer Revised after IOC feedback and approved by EC on 2011-11-03

Final Grade: Reporter

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							CHEST CO.													

Physics ±3

Correct and relevant physical

☐ Scientific approach

Presentation ±1

Overall impression

☐ Novelty of the report

References, proper citations of ideas and input of others

☐ Contribution to the discussion

Reporter ±1

☐ Structure

		9
Scoring Guideli		n: <u>k</u> Stage: 2 Problem no.: <u>(</u> . Signature: <u>Yeury - Yuau</u>) Lu
application of appropriate mathematics •	repts, theories and principles of the problem • an a reasonable experimental technique to gather and experimental findings to draw suitable conclusion and able manner	record data (or demonstrate the phenomena if
An opposition should show that the opponent challenged the reporter's appropriate mathematics presented • the opponent appreciated and highlighted the	understanding 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 controve	ective summary of the performances the reporter orsial ones) • the reviewer's personal opinion was interviewal and demonstrated, where possible, the red by the reporter and the opponent	n evidence (not just superficial observations) •
The <i>reporter</i> , <i>opponent</i> and <i>reviewe</i> . Consider the following <i>suggestions</i> to Select each partial grade from each s	s consists of a partial grade for <i>physics, presen</i> reach <i>start with 5 points</i> . The content of	
Rep.: Towas Zahradu & 5	Opp.: Patrick Meister 5 Switzerland.	Rev.: Paul Gatumbu 5
hysics ±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
resentation ±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 sølution	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
Slides, on-site experiments, audio, video, as appropriate	and the second of the second o	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 come an scan 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 Revised after IOC feedback and approved by EC on 2011-11-03



	Fight (Row	nd no):	Room	:K Stage: Problem	ع میں: آ
Scoring Guidelir	100	_		Signature:	
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A report should include: • a presentation of the appropriate concept application of appropriate mathematics • reappropriate) • linking of theoretical and excomplex ideas in an effective and understand	ts, theories and principle asonable experimental t experimental findings to	es of the probler echnique to gat	n • an ex her and re	aplanation of the observed phenome ecord data (or demonstrate the phen	omena if
An opposition should show that: • the opponent challenged the reporter's un appropriate mathematics presented • the oppoponent appreciated and highlighted the str	ponent <i>critiqued</i> the <i>exp</i>	perimental techn	t heories a ique used	nd <i>principles</i> • the opponent unders and questioned the <i>validity</i> of the <i>d</i>	stood the
A review should show that:			***************************************		
 the reviewer succeeded in giving an object important aspects (especially the controvers such personal opinions were informative, not principles and appropriate mathematics used 	<i>ial</i> ones) ● the reviewer': n-trivial and demonstrati	s <i>personal opinic</i> ed, where possib	n was in	evidence (not just superficial observ	ations) •
 The grade for each of the three teams of the reporter, opponent and reviewer of the consider the following suggestions to describe a select each partial grade from each section of the punish missing 'answers' when not the constant of the constan	each s tart with 5 point Add to or deduct from tion and write it in the	<mark>s.</mark> the initial 5 poi e corresponding	ints. g box.		
Rep.: Cred 5	Opp.: <u>Sweet</u>		5	Rev.: Langa	5
Physics ±3	Physics ±3	*	1	Physics ±3	-0,2
☐ Correct and relevant physics	Correct and re	levant physics	-	☐ Correct and relevant phys	sics
☐ Scientific approach	Scientific appr			☐ Scientific approach	
✓ Validity of conclusions✓ Accurate answers	☐ Validity of con☐ Accurate answ			☐ Validity of conclusions☐ Accurate answers	
Presentation ±1	Presentation ±	.1		Presentation ±1	0
Clear and understandable	☐ Clear and unde	erstandable		☐ Clear and understandable)
Appropriate manner	Appropriate m	anner		☐ Appropriate manner	
☐ Overall impression	Overall impres	sion		Overall impression	
Reporter ±1 -0,4	Opponent ±1		2,(Reviewer ±1	70,1
Quality of experimental technique(s)	Response to the solution	e reporter's	The state of the s	Provides a thorough revie report and discussion	w of
☑ Structure ☑ Explanation of formulae and	Shows the stro of the report	ng and weak p	points	Expresses own opinion ab topics presented or discus	out ssed
symbols Appropriate models, conformity	Finds shortcom the report	ings or errors	in	Relevance of questions to reporter and the opponen	both the
of dimensions	Relevance of th	ne questions		☐ Draws attention to points	missed
Slides, on-site experiments, audio, video, as appropriate	☐ Contribution to	the discussio	n	by the reporter or the opp	
References, proper citations of ideas and input of others			Management of the Control of the Con	This sheet will be collected fight assistant, so we can scar	
☐ Novelty of the report				archive your partial grades	- please
Contribution to the discussion			to the state of th	do not bend	
Final Grade: Reporter	Final Grade: Oppo	nent 6	Revised af	Final Grade: Reviewer ter IOC feedback and approved by EC on 2	5 2011-11-03

	7					
Scaring Guidali	Fight (Round no.): _ 5 Roor	m: K Stage: Problem no.:				
Scoring Guidelii	Juror: ChanCang Park	_ Signature: <u>Ran Oungland</u>				
application of appropriate mathematics • re	ets, theories and principles of the problem • an easonable experimental technique to gather and experimental findings to draw suitable conclusionable 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 ed and questioned the <i>validity</i> of the <i>data</i> • the				
important aspects (especially the controvers	ctive summary of the performances the reporter sial ones) • the reviewer's personal opinion was intrivial 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 see 	consists of a partial grade for <i>physics, presen</i> each <i>start with 5 points</i> . add to or deduct from the initial <i>5 points</i> . ction and write it in the corresponding box. no questions were posed or not finding shortc					
Rep.: Carp Rep 5	Opp.: Suiter and 5	Rev.: Kenya 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	Presentation ± 1 $+0.5$				
☐ Clear and understandable☐ Appropriate manner☐ Overall impression	☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression ← 5.5	☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression +0.5				
Reporter ±1 -0.5	Opponent ±1	Reviewer ±1 70.6				
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion fo , 3				
Structure	Shows the strong and weak points	Expresses own opinion about topics presented or discussed				
Explanation of formulae and symbols	of the report Finds shortcomings or errors in the report	topics presented or discussed Relevance of questions to both the reporter and the opponent				
☐ Appropriate models, conformity of dimensions☐ Slides, on-site experiments, audio,	Relevance of the questions Contribution to the discussion	Draws attention to points missed by the reporter or the opponent				
video, as appropriate	=	i b., tho				
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 be archive your partial grades – please				

 \square Contribution to the discussion

Final Grade: Reporter

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

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Scoring Guidelin	Fight (Round no.): 5 Roon 105 Juror: J. BALCOMB	Signature: 3 Problem no.: 16					
application of appropriate mathematics • re	es, theories and principles of the problem • an estate assonable experimental technique to gather and in experimental findings to draw suitable conclusional 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 state.	derstanding of the presented concepts, theories oponent critiqued the experimental technique use rengths and weaknesses of the report	and <i>principles</i> • the opponent understood the d and questioned the <i>validity</i> of the <i>data</i> • the					
important aspects (especially the controvers	tive summary of the performances the reporter ial ones) • the reviewer's personal opinion was in n-trivial and demonstrated, where possible, the real by the reporter and the opponent	evidence (not just superficial observations) •					
The <i>reporter</i> , <i>opponent</i> and <i>reviewer</i> endoctors to end consider the following <i>suggestions</i> to end consider the following suggestions to end consider the following suggestions to end consider the following suggestions are considered to th	consists of a partial grade for <i>physics, present</i> each start with 5 points. Add to or deduct from the initial 5 points. Ition and write it in the corresponding box. It on questions were posed or not finding shorted						
Rep.: Surtranlad 5	Opp.: Kerya 5	Rev.: Crech Rep 5					
hysics ±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					
resentation ±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					

Presentation ±1

☐ Accurate answers

Physics ±3

Rep.: Surrole

☐ Scientific approach

☐ Validity of conclusions

☐ Clear and understandable

☐ Correct and relevant physics

☐ 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

Final Grade: Reporter

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

Final Grade: Opponent

☐ Contribution to the discussion

Reviewer ±1

☐ Provides a thorough review of report and discussion

Expresses own opinion about topics presented or discussed

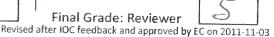
Relevance of questions to both the reporter and the opponent

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

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Final Grade: Reviewer



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30	oring	Guidelines	Juror:

Fight (Round no.):	Room: 4	Stage:	Problem no.:	16
Juror: Markin Leouh	Signate	ure: <u>} </u>	nlies	

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					
• Consider the following <i>suggestions</i> to a	add to or deduct from the initial 5 points.				
Don't nunish missing 'answers' when n	ction and write it in the corresponding box. o questions were posed or not finding shorter	- main and (Subsequent)			
	o questions were posed or not finding shorter	omings if there were none to find.			
Rep.: Switeshand 5	Opp.: Kenya 5	Rev.: Gech Republic 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 F-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	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	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	a, the reporter of 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 de- 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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Fight (Round no.): 45 Room	K_Stage:	3_ Problem no.: <u>/ 6</u>
JURON: KIESTEN STADERMANN	Signature: / A	L Steel

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

 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.: Switzerland 5	Opp.: Kenya 5	Rev.: Czech Rep. 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 +0,5	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 the report	Relevance of questions to both the reporter and the opponent				
☐ Appropriate models, conformity of dimensions	☐ Relevance of the questions					
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 3	Final Grade: Reviewer				

	Fish (Paradon)	n: K Stage: 3 Problem no.: 10
Scoring Guidelin	Juror: Yung-Yuan Hsi	1. Signature: Henry Hercan Har
application of appropriate mathematics • re	ts, theories and principles of the problem • an easonable experimental technique to gather and experimental findings to draw suitable conclusionable 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 state.	nderstanding of the presented concepts, theories oponent critiqued the experimental technique use rengths and weaknesses of the report	and <i>principles</i> • the opponent understood the data • the
important aspects (especially the controvers	tive summary of the performances the reporter sial ones) • the reviewer's personal opinion was in in-trivial and demonstrated, where possible, the red by the reporter and the opponent	n evidence (not just superficial observations) .
 The reporter, opponent and reviewer e Consider the following suggestions to e Select each partial grade from each sec 	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> . ction and <i>write it</i> in the corresponding box. o questions were posed or not finding shorter Opp.: Aryun Panuhana Keryan	
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 ☐ Validity of conclusions
Presentation ±1 Clear and understandable Appropriate manner	☐ Accurate answers Presentation ±1 ☐ Clear and understandable ☐ Appropriate manner	☐ Accurate answers Presentation ±1 ☐ Clear and understandable ☐ Appropriate manner
Overall impression Reporter ±1	Opponent ±1	☐ Overall impression Reviewer ±1
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion
Explanation of formulae and symbols Appropriate models, conformity	Shows the strong and weak points of the report Finds shortcomings or errors in the report	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		This sheet will be collected by 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

Final Grade: Reporter

		W
	Fight (Round no.): Roor	m: K Stage: Stage: Problem no.:
Scoring Guidelir	1es Juror: DEINLEIN	
application of appropriate mathematics • re	ts, theories and principles of the problem • an a easonable experimental technique to gather and experimental findings to draw suitable conclusion elable manner	record data for demonstrate the phenomena if
An opposition should show that: • the opponent challenged the reporter's un	derstanding of the presented concepts, theories	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: • the reviewer succeeded in giving an object important aspects (especially the controversity)	tive summary of the performances the reporter ial ones) • the reviewer's personal opinion was in n-trivial and demonstrated, where possible, the re	n evidence (not just superficial observations) .
The <i>reporter</i> , <i>opponent</i> and <i>reviewer</i> ended Consider the following <i>suggestions</i> to a Select each partial grade from each sections.	consists of a partial grade for <i>physics</i> , <i>present</i> each <i>start with 5 points</i> . Find to or <i>deduct</i> from the initial <i>5 points</i> . It is and write it in the corresponding box. The opening shorts of questions were posed or not finding shorts.	
Rep.: Swiss 5	Opp.: Konya 5	Rev.: Creel 5
hysics ±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
resentation ±1 Clear and understandable Appropriate manner Overall impression	Presentation ±1 Clear and understandable Appropriate manner Overall impression	Presentation ±1 ☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression
eporter ±1 Quality of experimental	Opponent ±1	Reviewer ±1 □ Provides a thorough review of
Explanation of formulae and symbols Appropriate models, conformity of dimensions Slides, on-site experiments, audio,	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	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
References, proper citations of ideas and input of others Novelty of the report Contribution to the discussion	- courtingtion to file 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: Reviewer Revised after IOC feedback and approved by EC on 2011-11-03

Rep.: Seriss

☐ Correct and relevant physics Scientific approach

☐ Clear and understandable

Explanation of formulae and

☐ Novelty of the report

Final Grade: Reporter

References, proper citations of ideas and input of others

☐ Contribution to the discussion

Final Grade: Opponent

☐ Appropriate manner

☐ Overall impression

Reporter ±1

☑ Structure

Presentation ±1

Physics ±3

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					Samuel 1			-	Aller 64	-4000-	400	-	440	-	-	CONTRACT OF THE PERSON NAMED IN	

Fight (Round no.):	pom: K Stage: 3 Problem no.: 16
luror: Chamang Park	Signature:
nd principles of the problem • a erimental technique to gother a	an <i>explanation</i> of the <i>observed phenomena</i> • an

• a presentation of the appropriate concepts, theories application of appropriate mathematics • reasonable e appropriate) • linking of theoretical and experimenta complex ideas in an effective and understandable mann

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

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• 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 expensions Consider the following suggestions to expensions Select each partial grade from each second 	consists of a partial grade for <i>physics, present</i> each <i>start with 5 points</i> . add to or <i>deduct</i> from the initial <i>5 points</i> . Ition and <i>write it</i> in the corresponding box. To questions were posed or not finding shorter	
Rep.: Sciterland 5	Opp.: kenya 5	Rev.: Clarech Rep 5
Physics ±3 Correct and relevant physics 10 Scientific approach Periment 10.5 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 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)	Opponent ±1 Response to the reporter's	Reviewer ±1 Provides a thorough review of
Structure Explanation of formulae and symbols	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 + 0 7 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 ofter IOC feedback and approved by EC on 2011-11-03