<i>•</i>		Fight (Ro	ound no.):		Room:	<u> </u>	St
Scoring	Guidelines	lurore	KABI	EIV	11	Signatur	
		Juror:	* "		1 8 8	Signatur	ω.

Problem no.:

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 see 	add to or deduct from the initial 5 points. ction and write it in the corresponding box. to questions were posed or not finding shorto	omings if there were none to find.
Rep.: Singapore 5	Opp.: Georges 5	Rev.: Brazil (brain Rebouças 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 the report	Relevance of questions to both the
Appropriate models, conformity of dimensions	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 graves
Contribution to the discussion		do not bend

Final Grade: Reporter

Final Grade: Opponent

Scoring Guidelines

Fight (Rou	nd no.):	2	Room: _	E	_ Stage: _	ĺ	Problem no	o.:	· eufeim
Juror:	Heli	ler	Kark	Śionatu	re·		Le 11	(w	

A	rep	ort	should	inc	lude:
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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.

	tion 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.:5	Opp.:5	Rev.: 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 + 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	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 com- archive your partial grades – please
☐ Contribution to the discussion		do not bend

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

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Scoring	Guidelines	luror Al

Fight (Round no.): Room:	E_ Stage:	Problem no.: 7
Juror: JAGHAZ PANOSOVA	Signature:	Phr.

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.

 Select each partial grade from each see 	each start with 5 points. add to or deduct from the initial 5 points. ction and write it in the corresponding box. so questions were posed or not finding shortc	omings if there were none to find.
Rep.: Singapre 5	Opp.: Georgia 5	Rev.: Brazil 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	☐ Validity of conclusions ☐ Accurate answers	☐ 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 ± 0.25	Opponent ±1 + 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 symbols	Shows the strong and weak points of the report	Expresses own opinion about topics presented or discussed
Appropriate models, conformity of dimensions	☐ Finds shortcomings or errors in the report ☐ Relevance of the questions	Relevance of questions to both the 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 glades
Contribution to the discussion Final Grade: Reporter	Final Grade: Opponent	do not bend Final Grade: Reviewer

Cooring Cuidali	Fight (Round no.): 2 Roor	m: Stage: Problem no.:
Scoring Guideli	nes Juror: Chranger 1:	_ Signature:
	34	
application of appropriate mathematics • i	ots, 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 u appropriate mathematics presented • the o opponent appreciated and highlighted the si	nderstanding of the presented concepts, theories exponent 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 controver	ctive summary of the performances the reporter sial ones) • the reviewer's personal opinion was in the performance possible, the reporter and the opponent	n evidence (not just superficial observations) a
 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, 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 shortc	
Rep.: Singapone 5	Opp.: Georgia 5	Rev.: Brizal. 5
Physics ±3 +2	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
U 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 the report	topics presented or discussed Relevance of questions to both th
 Appropriate models, conformity of dimensions 	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 we ob- archive your partial grades - please
Contribution to the discussion		do not bend
Section 2014 Annie Company Com		

Final Grade: Opponent

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

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elizion.	4000	-0000p	53	æ	靈	100			Walter Company	100 m	3 8	7	Sept.	Section 1	<i>8</i>	Œ.	#	8	Name of Street		,

Fight (Round no.): _	Room:	<u>E</u> Stage	e: Prol	blem no.:
Juror: KATHRYN	2EXLAND	Signature:	Kled	1

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

important aspects (especially the controver	ective summary of the performances the reporter rsial ones) • the reviewer's personal opinion was i on-trivial and demonstrated, where possible, the red by the reporter and the opponent	n evidence Instituct compressed about the
 The reporter, opponent and reviewer Consider the following suggestions to Select each partial grade from each se 	s consists of a partial grade for <i>physics</i> , <i>presen</i> reach <i>start with 5 points</i> . I add to or <i>deduct</i> from the initial <i>5 points</i> . Section and <i>write it</i> in the corresponding box. The properties of the pro	
Rep.: Dary 5	Opp.: Giorgi 5	Rev.: Ibrain 5
Physics ±3 +2 th	Physics ±3	Physics ±3
Correct and relevant physics	☐ Correct and relevant physics	☐ Correct and relevant physics
Scientific approach needed more	☐ Scientific approach	☐ Scientific approach
Validity of conclusions experiment		☐ 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 a bit over	Appropriate manner
Overall impression	Overall impression beary in disc	Overall impression
Reporter ±1 +12	Opponent ±1	Reviewer ±1
Quality of experimental technique(s) by not enough	Response to the reporter's solution	Provides a thorough review of report and discussion
Structure variables lested. Explanation of formulae and	Shows the strong and weak points of the report	Expresses own opinion about 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	shape of Modring object more	This sheet will be collected by the fight assistant, so we can scan it and
☑ Novelty of the report	important, you had atter better	fight assistant, so we control in archive your partial grades – please
Contribution to the discussion	shape of floating charef more important, you had other better grestions, well-ability liquides etc.	do not bend
Contract of the contract of th		MONTH Continues of the

Final Grade: Reporter



Pressur God !! Final Grade: Opponent

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

Consider Control 1	Fight (Round no.): 2 Roor	n: F Stage: / Problem no.: /
Scoring Guidelii	1es Juror: Chan Oung Park	
A report should include:	V	0
• a presentation of the appropriate concep 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 <i>challenged</i> the <i>reporter's un</i> appropriate mathematics presented • the opponent appreciated and highlighted the st	nderstanding of the presented concepts, theories pponent critiqued the experimental technique use rengths and weaknesses of the report	and <i>principles</i> • the opponent understood the ed and questioned the <i>validity</i> of the <i>data</i> • the
<i>Important aspects</i> (especially the <i>controvers</i>	tive summary of the performances the reporter sial ones) • the reviewer's personal opinion was in-trivial and demonstrated, where possible, the red by the reporter and the opponent	evidence (not just superficial observations)
The <i>reporter, opponent</i> and <i>reviewer</i> of Consider the following <i>suggestions</i> to a 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 deduct from the initial <i>5 points</i> . ction and write it in the corresponding box. o questions were posed or not finding shortco	
Rep.: Singapore 5	Opp.: Georgie 5	Rev.: Brazil 5
Physics ±3	Physics ±3	Physics ±3
Correct and relevant physics	Correct and relevant physics	Correct and relevant physics
Scientific approach and I be	Scientific approach	\square Scientific approach $\mathcal{H}_{\ell}O$
in validity of conclusions	Validity of conclusions 0 📞	Validity of conclusions +0.5
Accurate answers	☐ Accurate answers	☐ Accurate answers
resentation ±1	Presentation ±1	Presentation ±1 to.5
Clear and understandable	Clear and understandable	Clear and understandable
Appropriate manner \$6,6	Appropriate manner	☐ Appropriate manner fo. (
J Overall impression	Overall impression	☐ Overall impression
eporter ±1	Opponent ±1 fo.5	Reviewer ±1
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion +a (
Structure +0.5	Chave the strong and week	Im/-

☐ Shows the strong and weak points

Finds shortcomings or errors in

☐ Relevance of the questions

Final Grade: Opponent

☐ Contribution to the discussion

fo.5

of the report

the report

☑ Structure

symbols

Explanation of formulae and

Appropriate models, conformity of dimensions

video, as appropriate

☐ Novelty of the report

Final Grade: Reporter

Slides, on-site experiments, audio,

References, proper citations of ideas and input of others

☐ Contribution to the discussion

fight assistant, so we can scan it and archive your partial grades - piease do not bend

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

Castina C. I. I.	9	Fight (Round no.):	Roo	m: <u> </u>	2 Probl	em no.: 1	
Scoring Guideli	nes	Juror: KABI	ELKA	Signature:	Probeli	lier	
A report should include:					,		
• a presentation of the appropriate conce application of appropriate mathematics • appropriate) • linking of theoretical and complex ideas in an effective and understa	reasonable ex experimental	perimental techniqu e <i>findings</i> to draw <i>su</i>	e to <i>aather</i> and	record data for demo	nstrate the ni	honomona if	
An opposition should show that • the opponent challenged the reporter's appropriate mathematics presented • the opponent appreciated and highlighted the:	<i>understanding</i> opponent <i>criti</i>	qued the experimento	al technique use	and <i>principles</i> • the ed and questioned the	opponent und	erstood the	
A review should show that:		,		ALL WALLS			
 the reviewer succeeded in giving an objection important aspects (especially the controversuch personal opinions were informative, reprinciples and appropriate mathematics us 	<i>rsiai</i> ones) • ti non-trivial and	ne reviewer's <i>persona</i> demonstrated, where	i <i>l opinion</i> was i e possible, the r	n evidence Innt just a	unarficial above		
 The grade for each of the three team 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 <i>start w</i> o <i>add</i> to or <i>de</i> ection and <i>wi</i>	vith 5 points. Pduct from the initia Pite it in the corresp	ol 5 point s.				
Rep.: Georgio. Alexander Bannevels 5	Орр.:	Brazil João Gapriel	5	Rev.: Sing	papele Payl Pay	5	
Physics ±3	Physic	s ±3	2	Physics ±3		2	
☐ Correct and relevant physics	☐ Corr	ect and relevant p	hysics	☐ Correct and	l relevant pł	nysics	
Scientific approach	I	ntific approach		☐ Scientific approach			
☐ Validity of conclusions ☐ Accurate answers	i	lity of conclusions rate answers		☐ Validity of c☐ Accurate ar			
Presentation ±1	Presen	tation ±1	0	Presentation	n ±1	1	
Clear and understandable	☐ Clear	and understanda	ble	☐ Clear and u	nderstandab	ole	
☐ Appropriate manner	☐ Appr	opriate manner		☐ Appropriate	manner		
☐ Overall impression	☐ Over	Overall impression			ression		
Reporter ±1	Oppon	ent ±1	1	Reviewer ±1	,	-1	
 Quality of experimental technique(s) 	☐ Respo	onse to the report	ter's	Provides a to	horough rev	iew of	
☐ Structure	☐ Show	s the strong and v	weak points	☐ Expresses or		ahout	
Explanation of formulae and symbols	of the	report shortcomings or e	•	topics prese	nted or disc	ussed	
Appropriate models, conformity	the re	eport		reporter and	the oppone	ent	
of dimensions Slides, on-site experiments, audio, video, as appropriate		☐ Relevance of the questions ☐ Contribution to the discussion			tion to point ter or the op	ts missed oponent	
References, proper citations of ideas and input of others				This sheet W	ill be collected	d by the	
Novelty of the report					t, so we can so partial grades	* 25K 1	

Final Grade: Opponent

☐ 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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	Fight (Round no.): Roo	m:E Stage: Problem no.:
Scoring Guidelin	and the second second	Signature: lelle
application of appropriate mathematics • re	easonable experimental technique to gather and xperimental findings to draw suitable conclus i	explanation of the observed phenomena • an record data (or demonstrate the phenomena if ions • an attempt to communicate difficult or
An opposition should show that: • the opponent challenged the reporter's unappropriate mathematics presented • the opponent appreciated and highlighted the street.	oponent <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 controvers	<i>n-trivial</i> and demonstrated, where possible, the	in evidence (not just superficial observations) a
 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, preser</i> each start with 5 points. add to or deduct from the initial 5 points. Stion and write it in the corresponding box. To questions were posed or not finding shorts	
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	Opponent ±1	Reviewer ±1
 □ Explanation of formulae and symbols □ Appropriate models, conformity of dimensions 	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
 ☐ 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 	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





Canting Coristal	Fight (Round no.): Roor	m: E Stage: 2 Problem no.: 14
Scoring Guideli	NES Juror: <u>SAGMAR PANOSOVA</u>	Signature:
application of appropriate mathematics • i	pts, theories and principles of the problem • an e reasonable experimental technique to gather and a experimental findings to draw suitable conclusion andable manner	record data for demonstrate the phenomena if
An opposition should show that: • the opponent challenged the reporter's u	: 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
important aspects (especially the controver	ctive summary of the performances the reporter is sial ones) • the reviewer's personal opinion was in on-trivial and demonstrated, where possible, the read by the reporter and the opponent	a evidence (not just superficial absorbations)
 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, 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.: Georgia 5	Opp.: Brasil 5	Rev.: hugapare 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 + / 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	Expresses own opinion about topics presented or discussed
Appropriate models, conformity of dimensions Slides, on-site experiments, audio.	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	— contribution to the discussion	This sheet will be collected by the
☐ Novelty of the report☐ Contribution to the discussion		fight assistant, so the grades – please archive your partial grades – please do not bend

Final Grade: Reporter

Final Grade: Opponent

	Fight (Round no.): 2 Roo	m: _ E _ Stage: _ 2 _ Problem no.: _ (
Scoring Guideli	nes Juror: Chrom Comp Li	A A			
	Janon Charles L.	_ Signature.			
A report should include:					
application of appropriate mathematics • i	ots, theories and principles of the problem • an easonable experimental technique to gather and experimental findings to draw suitable conclusing adable manner	record data for demonstrate the phenomena if			
An opposition should show that: • the opponent challenged the reporter's u appropriate mathematics presented • the o opponent appreciated and highlighted the st	nderstanding of the presented concepts, theories pponent critiqued the experimental technique us	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 sial ones) • the reviewer's personal opinion was in the reviewer's personal opinion was intervival and demonstrated, where possible, the red by the reporter and the opponent	n evidence (not just conorficial obcomptions)			
 The reporter, opponent and reviewer Consider the following suggestions to Select each partial grade from each ser 	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 shorte				
Rep.: Georgia 5	Opp.: Brizal 5	Rev.: Singapore 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	☐ Accurate answers			
Presentation ±1	Presentation ±1	Presentation ±1			
☐ Clear and understandable	☐ Clear and understandable	☐ Clear and understandable			
☐ Appropriate manner	Appropriate manner	☐ Appropriate manner			
U 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 Relevance of the guestions	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			
□ Novelty of the report		This sheet will be conscan it and 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

5	CO	r			T	a	G	U		d	e			n	10	5
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Fight (Round no.): 2 Room:	E_Stag	ge: <u>2</u> Problem no.: <u>14</u>
Juror: KATHRIN ZEALAND	Signature:	Frem.

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.

 Select each partial grade from each sec 	each start with 5 points. add to or deduct from the initial 5 points. ction and write it in the corresponding box. no questions were posed or not finding shortc	omings if there were none to find.
Rep.: Alexander 5	Opp.: <u>João</u> 5	Rev.: Sheu 5
Physics ±3	Physics ±3	Physics ±3 24
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 difficult to	Appropriate manner	Appropriate manner
Overall impression follows	Overall impression	Overall impression
Reporter ±1	Opponent ±1	Reviewer ±1
Quality of experimental technique(s) not explaned	Response to the reporter's solution talk more about expect	Provides a thorough review of report and discussion
Structure Spreadly Explanation of formulae and	Shows the strong and weak points of the report	Expresses own opinion about 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 Language president Draws attention to points missed
Slides, on-site experiments, audio, video, as appropriate	Contribution to the discussion	by the reporter or the opponent Poor Sky in greshions
References, proper citations of ideas and input of others	Good questions! too fremuch focus on dray force	(Unac) (City) he collected by the
Novelty of the report	depth deported restitue free	This sheet will be constant and fight assistant, so we can scan it and archive your partial grades — please
Contribution to the discussion 6.5	good ask about splash.	do not bend 7.5 L
	V Proposition of the contract	

Final Grade: Opponent

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

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Scoring Guideli		m: E Stage: 2 Problem no.:
	Juror: Chan am fark	_ Signature: Charley Juh
application of appropriate mathematics • r	ots, theories and principles of the problem • an reasonable 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 statement of the sta	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 controver.	ctive summary of the performances the reporter sial ones) • the reviewer's personal opinion was in the constraint on 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 ser 	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.: George 5	Opp.: Brazil 5	Rev.: Smy pore 5
Physics ±3 Physics ±3 Physics ±3 Physics ±3	Physics ±3	Physics ±3
☐ Correct and relevant physics ☐ Scientific approach	Correct and relevant physics	Correct and relevant physics
☐ Validity of conclusions †0. 「	Scientific approach Validity of conclusions	Scientific approach
Accurate answers	Accurate answers	☐ Validity of conclusions ☐ Accurate answers
Presentation ±1	Presentation ±1 +6-5	Presentation ±1 +/. D
☐ 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
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion +6.
☐ Structure ☐ Explanation of formulae and	Shows the strong and weak points of the report	Expresses own opinion about 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 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 References, proper citations of ideas and input of others		This sheet will be collected by the

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Final Grade: Opponent

☐ Novelty of the report

Final Grade: Reporter

☐ Contribution to the discussion

Final Grade: Reviewer

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

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

Scoring Guideline	5
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Fight (Round no.): Room:	Stage:	2 Problem no.:
Juror: KABELVA	Signature:	Kelden

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. ction and write it in the corresponding box. To questions were posed or not finding shortc	omings if there were none to find.
Rep.: Brazil Lianz Guinskberg 5	Opp.: Singapare 5	Rev.: Georgia 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	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	
☐ Explanation of formulae and	of the report	Expresses own opinion about topics presented or discussed
symbols Appropriate models, conformity of dimensions	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 are archive your partial grades – piease
Contribution to the discussion		do not bend

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Fight (Round no.): 2	Room: E Stage: 5	_ Problem no.: <i> 0</i> _
Juror: Heller	Signature:	falls

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.

bon c bangsi missing answers when	no questions were posed or not finding shortco	• Don't pullish missing answers when no questions were posed or not finding shortcomings if there were none to find.					
Rep.: 5	Opp.: 5	Rev.: 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 +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					
 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, so we com- archive your partial grades – please					
Contribution to the discussion		do not bend					

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Fight (Round no.): 2 Room:	Stage:		10
Juror: DAGMAR PANOSOVA!	Signature:	Pau.	

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 secDon't punish missing 'answers' when n	ction and <i>write it</i> in the corresponding box. o questions were posed or not finding shortc	omings if there were none to find.
Rep.: Busil 5	Opp.: fingapore 5	Rev.: Gargia 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 -1/2	Presentation ±1 † 1/2	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	☐ 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 con a please archive your partial grades — please
☐ Contribution to the discussion		do not bend
Final Grade: Reporter	Final Grade: Opponent	Final Grade: Reviewer

	Fight (Round	no.): Z Roci	m: Stage: Problem no.:
Scoring Guidel		an Your /	•
province resolution and contract and an extension of the contract		3 1	- Osmandi
upplication of appropriate mathematics	• reasonable experimental tech • <i>experimental findings</i> to dra	i nique to <i>aather</i> and	explanation of the observed phenomena • an record data (or demonstrate the phenomena if ons • an attempt to communicate difficult or
An opposition should show tha • the opponent challenged the reporter's appropriate mathematics presented • the opponent appreciated and highlighted the	understanding of the presente opponent critiqued the experi	mental 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:			
I uniborraint aspects (especially the controve	e rsial ones) • the reviewer's <i>pe</i> non-trivial and demonstrated.	e rsonal opinion was i where possible, the r	and opponent • the reviewer appreciated the n evidence (not just superficial observations) • eviewer's understanding of concepts, theories,
 The grade for each of the three team The reporter, opponent and reviewe Consider the following suggestions t Select each partial grade from each s Don't punish missing 'answers' when 	r each start with 5 points. o add to or deduct from the ection and write it in the co	initial 5 points . rresponding box.	
Rep.: Byizal 5	Opp.: Singape	re 5	Rev.: Georgia 5
Physics ±3	Physics ±3	+(Physics ±3 †2
Correct and relevant physics	☐ Correct and relev	ant physics	Correct and relevant physics
Scientific approach	☐ Scientific approac	h	Scientific approach
☐ Validity of conclusions	☐ Validity of conclus		☐ Validity of conclusions
☐ Accurate answers	☐ Accurate answers		☐ Accurate answers
Presentation ±1	Presentation ±1	0	Presentation ±1
Clear and understandable	☐ Clear and underst		☐ Clear and understandable
☐ Appropriate manner☐ Overall impression	☐ Appropriate mann		Appropriate manner
— Overall impression	U Overall impression	<u></u>	Overall impression
Reporter ±1	Opponent ±1	-(Reviewer ±1 +(
Quality of experimental technique(s)	Response to the resolution	eporter's	Provides a thorough review of report and discussion
☐ Structure	Shows the strong a	and weak points	Expresses own opinion about
Explanation of formulae and symbols	Finds shortcoming		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 q		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
Novelty of the report		A CONTRACTOR OF THE CONTRACTOR	This sheet will be constant and fight assistant, so we can scan it and archive your partial grades — please

Final Grade: Reporter Final Grade: Opponent

Contribution to the discussion

Final Grade: Reviewer

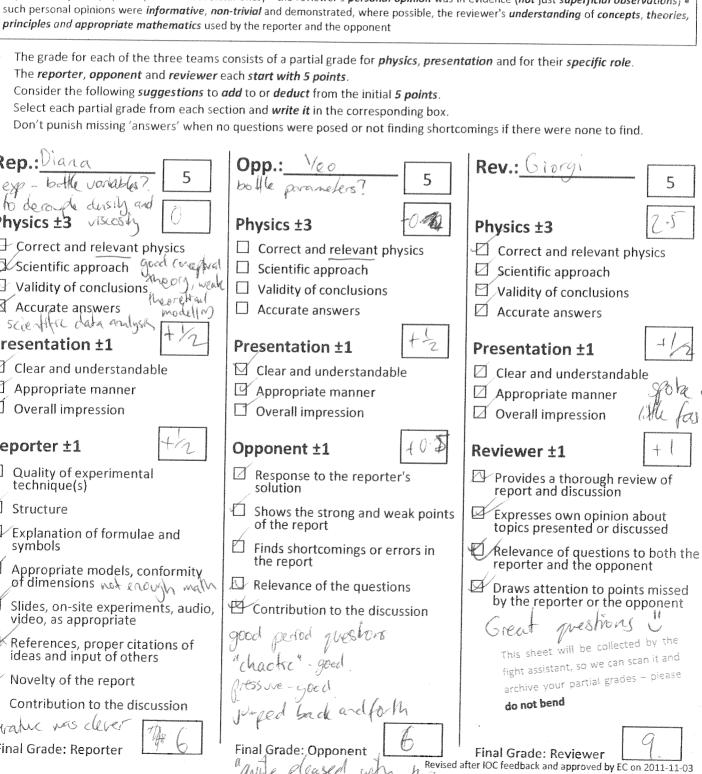
Revised after IOC feedback and approved by EC on 2011-11-03

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Scoring Guidelines

Scoring Guidelin			n: <u>E</u> Stage: <u>3</u> Prob	
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	asonable experimental technique « perimental findings to draw <i>su</i>	to <i>gather</i> and r	record data (or demonstrate the p	henomena if
An opposition should show that: • the opponent challenged the reporter's unappropriate mathematics presented • the opponent appreciated and highlighted the street	ponent critiqued the experimenta	al technique use	and <i>principles</i> • the opponent und d and questioned the <i>validity</i> of th	derstood the
A review should show that: • the reviewer succeeded in giving an object important aspects (especially the controversi such personal opinions were informative, non principles and appropriate mathematics used	ial ones) • the reviewer's <i>persona</i> n-trivial and demonstrated, where	<i>I opinion</i> was in possible, the re	evidence (not just superficial obs	ervations\ a
The grade for each of the three teams of the <i>reporter</i> , <i>opponent</i> and <i>reviewer</i> e Consider the following <i>suggestions</i> to a Select each partial grade from each sect Don't punish missing 'answers' when no	ach s tart with 5 points . I dd to or deduct from the initia tion and write it in the corresp	al <i>5 points</i> . onding box.		
exp - both variables? 5 to decouple dusity and 0 hysics ±3 viscosity	Opp.: Yeo bottle parameters?	5	Rev.: Giorgi	5
	Physics ±3	1034	Physics ±3	[2,3]
Correct and relevant physics Scientific approach	Correct and relevant p	hysics	Correct and relevant p	hysics
Validity of conclusions (hearthan)	☐ Scientific approach☐ Validity of conclusions		Scientific approach	
Accurate answers Mearth al	Accurate answers		☐ Validity of conclusions☐ Accurate answers	
scientific data analysis Hotelin)	Presentation ±1	+	Presentation ±1	4/2

Rep.: Viana	
more exp - bothle variables? 5	
Physics ±3 viscosty	
<i>"</i>	
Correct and relevant physics	
Scientific approach good (segual	
Validity of conclusions theory weak	-
Accurate answers	
Presentation ±1	-
Clear and understandable	
Appropriate manner	
Overall impression	
Z Overall impression	
Reporter ±1	-
Quality of experimental technique(s)	
☐ Structure	4
Explanation of formulae and symbols	
Appropriate models, conformity of dimensions were enough male	Į
Slides, on-site experiments, audio, video, as appropriate	¥
References, proper citations of ideas and input of others	Ç
Novelty of the report	1
☐ Contribution to the discussion	
emprance was clever the	1
Final Grade: Penarter	



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Scoring Guidelin	1es Fight (Round no.): Roor Juror: Roor	n: E Stage: 3 Problem no.: 10 Signature: Comban fort
A report should include:	<u> </u>	<u> </u>
application of appropriate mathematics • r	ets, 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 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 d and questioned the <i>validity</i> of the <i>data</i> • the
A review should show that:		
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 interested, where possible, the red by the reporter and the opponent	evidence (not just superficial observations)
 Select each partial grade from each sec 	add to or deduct from the initial 5 points. ction and write it in the corresponding box. to questions were posed or not finding shortco Opp.: Singapore 5	Rev.: George
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 †/, 0
Clear and understandable	☐ Clear and understandable	Clear and understandable of the
Appropriate manner	Appropriate manner	Appropriate manner
Overall impression	Overall impression	Overall impression
Reporter ±1	Opponent ±1	Reviewer ±1 +1.0
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion + 0, 5
Structure	☑ Shows the strong and weak points	Expresses own opinion about topics presented or discussed
Explanation of formulae and symbols	Finds shortcomings or errors in	Relevance of questions to both the
Appropriate models, conformity	the report	reporter and the opponent
of dimensions	Relevance of the question's	☐ Draws attention to points missed
Slides, on-site experiments, audio,	☐ Contribution to the discussion	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

☐ Contribution to the discussion

Slides, on-site experiments, audio,

References, proper citations of ideas and input of others

☐ Contribution to the discussion

video, as appropriate

☐ Novelty of the report

