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Scoring Guideli		om: Problem no.:							
	Juror: Alan Alluson	Signature:AlAll							
application of appropriate mathematics • 1	reasonable <mark>experimental technique</mark> to <i>gather</i> an <i>experimental findings</i> to draw <i>suitable conclu</i> .	n <i>explanation</i> of the <i>observed phenomena</i> • an ad <i>record data</i> (or <i>demonstrate</i> the <i>phenomena</i> if <i>sions</i> • an attempt to communicate <i>difficult</i> or							
An opposition should show that • the opponent challenged the reporter's u appropriate mathematics presented • the o opponent appreciated and highlighted the s	nderstanding of the presented concepts, theorie apponent critiqued the experimental technique u	es and principles • the opponent understood the used and questioned the validity of the data • the							
important aspects (especially the controver	rsial ones) • the reviewer's personal opinion was on-trivial and demonstrated, where possible, the	er and opponent • the reviewer appreciated the s in evidence (not just superficial observations) • e reviewer's understanding of concepts, theories,							
 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, prese</i> each <i>start with 5 points</i> . add to or <i>deduct</i> from the initial <i>5 points</i> . ection and <i>write it</i> in the corresponding box. no questions were posed or not finding shor								
Rep.: IRAN Shive 5	Opp.: China 5	Rev.: Karoca 5							
Physics ±3	Physics ±3	Physics ±3							
Correct and relevant physics	☐ Correct and relevant physics	Correct and relevant physics							
Scientific approach	Scientific approach	Scientific approach							
☐ Validity of conclusions ☐ Accurate answers	☐ Validity of conclusions☐ Accurate answers	✓ Validity of conclusions							
Accurate answers	Accurate answers	☐ Accurate answers							
Presentation ±1	Presentation ±1	Presentation ±1							
\square Clear and understandable \mathbb{R}^{2}	☐ Clear and understandable	Clear and understandable							
Appropriate manner	☐ Appropriate manner	☐ Appropriate manner — complete							
Overall impression	U Overall impression	Overall impression Cohical							
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 Structure	Shows the strong and weak point of the report	s Expresses own opinion about							
☐ Explanation of formulae and symbols ☐ C CNCト	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		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- 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

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Scoring Guideli	Fight (Round no.): Roor Nes Juror: Suzu yuu	n: Stage: Problem_no :						
		_ signature:						
application of appropriate mathematics •	ots, theories and principles of the problem • an ereasonable experimental technique to gather and experimental findings to draw suitable conclusions	record data (or demonstrate the phenomena if						
An opposition should show that								
• the opponent challenged the reporter's u	inderstanding of the presented concepts, theories opponent critiqued the experimental technique use	and <i>principles</i> • the opponent understood the data • the						
A review should show that:								
important aspects (especially the controver	ctive summary of the performances the reporter rsial ones) • the reviewer's personal opinion was in on-trivial and demonstrated, where possible, the reed by the reporter and the opponent	n evidence (not just superficial observations) •						
 The reporter, opponent and reviewer Consider the following suggestions to Select each partial grade from each se 	consists of a partial grade for <i>physics</i> , <i>present</i> each <i>start with 5 points</i> . add to or <i>deduct</i> from the initial <i>5 points</i> . ection and <i>write it</i> in the corresponding box. no questions were posed or not finding shortc							
Rep.: 7ran 5	Opp.:	Rev.: Vorce 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✓ Accurate answers	☐ Validity of conclusions☐ Accurate answers	☐ Validity of conclusions ☐ Accurate answers						
Presentation ±1	Presentation ±1	Presentation ±1						
Clear and understandable	☐ Clear and understandable	☐ Clear and understandable						
Appropriate manner	Appropriate manner	☐ Appropriate manner						
Overall impression	☐ Overall impression	Overall impression						
Reporter ±1 +0,5	Opponent ±1	Reviewer ±1						
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion						
∄ Structure	Shows the strong and weak points of the report	Expresses own opinion about						
∃)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						
Novelty of the report		This sheet will be book 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

	# 0	Fight (Round no.):	十 Room: _	Stag	ge: Pro	blem no.: <u> </u>
Scoring Guide	elines	Juror:Daniela I	vanova	Signature:	4	

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

An opposition should show that:

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

A review should show that:

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

 Select each partial grade from each 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.: Iran 5	Opp.: China 5	Rev.: Korea 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
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,	'	Draws attention to points missed by the reporter or the opponent
video, as appropriate	☐ Contribution to the discussion	
References, proper citations of ideas and input of others		This sheet will be collected by the fight assistant, so we can scan it and
☐ Novelty of the report		fight assistant, so we con 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

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				Example 1	-100000			- 10	- Marie	~	en.	-	-	400	1,,

	Fight (F	Round no.): _	4 Roon	n:	Stage:	Problem no.:
Scoring Guideli	nes	576U€	LMACHA	_ Signature	: S.F.Q	
A report should include: • a presentation of the appropriate concepapplication of appropriate mathematics • appropriate) • linking of theoretical and complex ideas in an effective and understan	reasonabl <mark>e experimen</mark> experimental findings	tal technique	to <i>gather</i> and i	record data (or <i>demonstrate</i> t	he <i>phenomena</i> if
An opposition should show that. • the opponent challenged the reporter's unappropriate mathematics presented • the copponent appreciated and highlighted the s	inderstanding of the popponent critiqued the	experimenta:	<i>l technique</i> use	and <i>principle</i> d and questi	es • the opponen	t understood the of the <i>data</i> • the
A review should show that: • the reviewer succeeded in giving an obje important aspects (especially the controver such personal opinions were informative, no principles and appropriate mathematics use	rsial ones) • the reviev on-trivial and demons	ver's <i>personal</i> trated, where	opinion was in possible, the re	n evidence (<i>n</i>	ot just superficia	l observations) .
 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 pc add to or deduct fro ection and write it in	oints. om the initial the correspo	l <i>5 points.</i> onding box.			
Rep.: 1660 5	Opp.: C	i Ca	5	Rev.:	Korea	5
Physics ±3 Correct and relevant physics Scientific approach brechoung Validity of conclusions models Accurate answers No meer to the property of the property	Scientific ap Validity of c Accurate ar Presentation	nswers Properties of the conclusions of the conclus	pri not ye with	Scient Valid Accu	s ±3 rect and relevantific approachdity of conclusurate answers ratation ±1 r and understate opriate mannerall impression	n ions I andable er
Reporter ±1	Opponent ±		NAME OF THE PARTY	Review	·	9 19 19
Quality of experimental technique(s) Septimental technique(s) Septimental technique(s) Septimental technique(s) Septimental technique(s) Septimental technique(s) Septimental technique and symbols X Explanation of formulae and symbols X Appropriate models/conformity of dimensions Slides, on-site experiments, audio, video, as appropriate References, proper citations of ideas and input of others Novelty of the report / Contribution to the discussion	Response to solution Shows the sof the report Finds shorted the report Relevance o Contribution	the report of the report of the questi	veak points errors in	Prov repo Expretopic Releverepo Draw by th	ides a thoroug rt and discussi esses own opi cs presented o vance of quest rter and the o	nion about r discussed ions to both the pponent points missed the opponent blected by the can scan it and
	www.hareura.com.com.com.com.com.com.com.com.com.com		77	CO!	er outsutsvern	9
Final Grade: Reporter	Final Grade: Op	ponent L		Final Gr	ade: Reviewer	

<i>(</i> 6		Fight (Round no.): Room:
Scoring	Guidelines	Juror: STAMSLAN PANOS Signa

1/2 __ 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.

 Select each partial grade from each sec 	each start with 5 points. 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.: <i>1RAN</i> 5	Opp.:	Rev.: KOREA 5				
Physics ±3 $+2$	Physics ±3	Physics ±3				
 □ Correct and relevant physics □ Scientific approach No eye □ Validity of conclusions evvors □ 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 + 0,5	Presentation ±1 + 1				
Clear and understandable Appropriate manner Too fast of Overall impression	☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression	☐ Clear and understandable☐ Appropriate manner☐ Overall impression				
Reporter ±1 +0,5	Opponent ±1 + 0,5	Reviewer ±1 + /				
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion				
	Shows the strong and weak points 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 — SIMUCATION OK.	⊞ Relevance of the questions	Draws attention to points missed by the reporter or the opponent				
Slides, on-site experiments, audio, video, as appropriate	☐ Contribution to the discussion					
References, proper citations of ideas and input of others		This sheet will be collected by the fight assistant, so we can scan it and				
₩ Novelty of the report		archive your partial glades				
Contribution to the discussion		do not bend				

Final Grade: Reporter

Final Grade: Opponent

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Scoring Guidelii	Fight (Round no.): 4 Room Juror: Fugur Voit	n: Stage: Problem no.: 10
9	Juror: Tuger VOIT	_ Signature:
application of appropriate mathematics • re	ts, theories and principles of the problem • an e easonable experimental technique to gather and a xperimental 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 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
A review should show that:		
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 red d by the reporter and the opponent	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> . Ition and <i>write it</i> in the corresponding box. It o questions were posed or not finding shortco	
Rep.: Iran 5	Opp.: China 5	Rev.: Kolea
	5	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 ☐ 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	\square Relevance of the questions	☐ Praws 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

Final Grade: Reporter Final Grade: Opponent

☐ Novelty of the report

 \square Contribution to the discussion

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

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Correct and relevant physics

Scientific approach

☐ Accurate answers

Presentation ±1

☐ Validity of conclusions

☐ Clear and understandable

☐ Appropriate models, conformity

☐ Appropriate manner

☐ Overall impression

Reporter ±1

☐ Structure

☐ Novelty of the report

Physics ±3

		gyminin
Scoring Guidelii	Fight (Round no.): 4 Roon 105 Juror: Alan Allasan	n: Stage: Problem no.:
	Julion Ara Arthores	_ Signature.
application of appropriate mathematics • re	ts, theories and principles of the problem • an e easonable experimental technique to gather and a xperimental 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 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
A review should show that:		
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	evidence (not just superficial observations) •
The <i>reporter, opponent</i> and <i>reviewer</i> of Consider the following <i>suggestions</i> to Select each partial grade from each section bon't punish missing 'answers' when no	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 shortco	
Rep.: China 5	Opp.: Korea 5	Rev.: \ Can . herear & Modernal 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 Accurate answers	✓ Validity of conclusions Accurate answers	☐ Validity of conclusions
Accorded 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
J Overall impression	Overall impression	Overall impression
eporter ±1	Opponent ±1	Reviewer ±1
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion
Structure	Shows the strong and weak points	Expresses own opinion about
Explanation of formulae and symbols	of the report Finds shortcomings or errors in	topics presented or discussed Relevance of questions to both the
Appropriate models, conformity of dimensions	the report 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
At the College		fight assistant, so

Final Grade: Reporter

Contribution to the discussion

Final Grade: Opponent

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

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archive your partial grades - please

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Scoring Guidelin	1es Juror: Surface Juror: Su	n: D Stage: 2 Problem no.: 2
application of appropriate mathematics • r	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 unappropriate 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
important aspects (especially the controvers	ctive summary of the performances the reporter sial ones) • the reviewer's personal opinion was in the 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 set 	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. so questions were posed or not finding shortc	
Rep.: Chera 5	Opp.: Korea 5	Rev.: 7, 20 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 40,5
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 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		This sheet will be collected by the

 \square Contribution to the discussion

☐ Novelty of the report

Final Grade: Opponent

Final Grade: Reviewer

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

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

Final Grade: Reporter

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	Fight (Round no.): 4 Roon	n: D Stage: Z Problem no.:
Scoring Guidelin	1es Juror: Daniela Ivanova	Signature:
application of appropriate mathematics • re	ts, theories and principles of the problem • an e easonable experimental technique to gather and i xperimental findings to draw suitable conclusio	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 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
A review should show that:		
• the reviewer succeeded in giving an <i>objectimportant aspects</i> (especially the <i>controvers</i>	tive summary of the performances the reporter sial ones) • the reviewer's personal opinion was in n-trivial and demonstrated, where possible, the red by the reporter and the opponent	evidence (not just superficial observations) •
 The reporter, opponent and reviewer Consider the following suggestions to Select each partial grade from each sec 	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> . ction and <i>write it</i> in the corresponding box. to questions were posed or not finding shortco	
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 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

This sheet will be collected by the References, proper citations of ideas and input of others fight assistant, so we can scan it and archive your partial grades - please ☐ Novelty of the report ☐ Contribution to the discussion

☐ Relevance of the questions

☐ Contribution to the discussion

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Final Grade: Opponent



Final Grade: Reviewer

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

Draws attention to points missed by the reporter or the opponent



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Fight (Round no.): Room:	Stage: Problem no.:2
Juror: STEVE ADAMS	Signature: S, F. Old

Final Grade: Reviewer

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

A report should include:

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

An opposition should show that:

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

A review should show that:

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

 Don't punish missing 'answers' when n 	o questions were posed or not finding shortco	omings if there were none to find.
Rep.: CHINA 5	Opp.: KOREA 5	Rev.: 1RAN 5
Physics ±3	Physics ±3	Physics ±3
☐ Correct and relevant physics +0.5 ☐ Scientific approach ☐ Validity of conclusions +0.5	☐ Correct and relevant physics☐ Scientific approach☐ Validity of conclusions	☐ Correct and relevant physics☐ Scientific approach☐ Validity of conclusions
Accurate answers - Good CANGAL +0.2 Presentation ±1	☐ Accurate answers Presentation ±1	☐ Accurate answers
☐ Clear and understandable ➤ 0.5 ☐ Appropriate manner ✓ ☐ Overall impression - 0.5.	☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression	Presentation ±1 ☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression
Reporter ±1	Opponent ±1	Reviewer ±1
Quality of experimental technique(s) -0.5 poor control	Response to the reporter's solution	Provides a thorough review of report and discussion
☐ Structure OK. \$ 5000 d. ☐ Explanation of formulae and	Shows the strong and weak points of the report	Expresses own opinion about topics presented or discussed
symbols - 0-3 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	3.10 0.1000331011	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: Reporter	Final Grade: Opponent	Final Grade: Reviewer

Scoring Guidelines	Carried States			S	ð				@	9 8	1	Ø	7 6	,		
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Canina Cail I	Fight (Round no.):4 Room	n: Stage: Problem no.:
Scoring Guideli	nes Juror: STANISLAN PANO	Signature: Raw-4
application of appropriate mathematics •	ots, theories and principles of the problem • an e reasonable experimental technique to gather and re experimental findings to draw suitable conclusion and able manner	ecord data (or demonstrate the phenomena if
An opposition should show that. • the opponent challenged the reporter's unappropriate mathematics presented • the component appreciated and highlighted the second	inderstanding of the presented concepts, theories apponent critiqued the experimental technique use	end <i>principles</i> • the opponent understood the d 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	evidence (not just superficial observations) •
 The reporter, opponent and reviewer Consider the following suggestions to Select each partial grade from each se 	consists of a partial grade for <i>physics, 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 shortcom.	
Rep.: CHINA 5	Opp.: KORE A 5	Rev.: / <i>RAM</i> 5
Physics ±3 ☐ Correct and relevant physics (A B 17) ☐ Scientific approach ☐ Validity of conclusions ☐ Accurate answers	Physics ±3 ☐ Correct and relevant physics +0,5 ☐ Scientific approach + 0,7 ☐ Validity of conclusions +9,7 ☐ Accurate answers +1	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 -0.5	Opponent ±1 + 1	Reviewer ±1 +1
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion
Estructure 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 the report	Relevance of questions to both the reporter and the opponent
Appropriate models, conformity of dimensions	Relevance of the questions	Draws attention to points missed by the reporter or the opponent
Slides, on-site experiments, audio, video, as appropriate		
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: Reporter	Final Grade: Opponent	Final Grade: Reviewer





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Scoring Guidelin	1es Fight (Round no.): Room Juror: Voit	Signature: $\frac{2}{\sqrt{2}}$ Problem no.: $\frac{2}{\sqrt{2}}$					
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 conclusionable manner	record data (or demonstrate the phenomena if					
An opposition should show that: • the opponent challenged the reporter's un appropriate mathematics presented • the oppoponent appreciated and highlighted the str	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 red by the reporter and the opponent	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, present</i> each start with 5 points. add to or deduct from the initial 5 points. Ition and write it in the corresponding box. To questions were posed or not finding shortco						
Rep.: Chiva 5	Opp.: Korea 5	Rev.: Iau 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 ☐ 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		This sheet will be collected by the					

Contribution to the discussion

☐ Novelty of the report

Final Grade: Opponent

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

do not bend

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

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						Daniel S			_				_	_	-	

Consider Cuidalia	Fight (Round no.): 4 Roor	n: D Stage: 2 Problem no.:
Scoring Guidelii	1es Juror: ALAN ALLINSON	Signature: Ala Alla
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 unappropriate 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
important aspects (especially the controvers	tive summary of the performances the reporter sial ones) • the reviewer's personal opinion was intervial and demonstrated, where possible, the red by the reporter and the opponent	n evidence (not just superficial observations) •
 The reporter, opponent and reviewer of 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> . ction and <i>write it</i> in the corresponding box. to questions were posed or not finding shortc	
Rep.: KOREA Doyeong Fin 5	Opp.: 12AN 5	Rev.: Chant 5
Physics ±3	Physics ±3	Physics ±3
☐ Correct and relevant physics☐ Scientific approach☐ Validity of conclusions☐ Accurate answers	☐ Correct and relevant physics☐ Scientific approach☐ Validity of conclusions☐ Accurate answers	☐ Correct and relevant physics☐ Scientific approach☐ Validity of conclusions☐ Accurate answers
Presentation ±1	Presentation ±1	Presentation ±1
☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression	☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression	☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression
Reporter ±1	Opponent ±1	Reviewer ±1
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion
☐ Structure	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
Novelty of the report		This sheet will be contained fight assistant, so we can scan it and archive your partial grades — please
Contribution to the discussion	una val con to on sumanicano i straverno la value una triberenia.	do not bend
Final Grade: Reporter	Final Grade: Opponent Revised	Final Grade: Reviewer after IOC feedback and approved by EC on 2011-11-03

	Fight (David as No. 4)	D a 3 a 4
Scoring Guideli	Fight (Round no.): 4 Room Nes Juror: 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
application of appropriate mathematics •	pts, theories and principles of the problem • an reasonable experimental technique to gather and experimental findings to draw suitable conclusion and ble 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 second	<i>understanding</i> of the presented <i>concepts, theories</i> opponent <i>critiqued</i> the <i>experimental technique</i> 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 controve	ective summary of the performances the reporter rsial ones) • the reviewer's personal opinion was intervial 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 	s consists of a partial grade for <i>physics, presen</i> reach start with 5 points. o add to or deduct from the initial 5 points. ection and write it in the corresponding box. no questions were posed or not finding shorto	
Rep.: 6	Opp.: 7, 200 5	Rev.: China 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
Elear and understandable	Clear and understandable	☐ Clear and understandable
Appropriate manner fung	Appropriate manner	☐ Appropriate manner
Overall impression	Overall impression	Overall impression
Reporter ±1	Opponent ±1	Reviewer ±1 -0,2
☐ Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion
Structure Explanation of formulae and	Shows the strong and weak points of the report	Expresses own opinion about topics presented or discussed
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

☐ Novelty of the report

(D) Contribution to the discussion

Final Grade: Opponent



Final Grade: Reviewer

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

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



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Fight (Round no.): 4 Room: D Stage: 3 Problem no.: 11 Juror: Daviela Ivanova Signature:
s and principles of the problem • an explanation of the observed phenomena • an experimental technique to gather and record data (or demonstrate the phenomena if al findings to draw suitable conclusions • an attempt to communicate difficult or ner
ng of the presented concepts, theories and principles • the opponent understood the itiqued the experimental technique used and questioned the validity of the data • the

A report should include:

• a presentation of the appropriate concepts, theorie. application of appropriate mathematics • reasonable e appropriate) • linking of theoretical and experimental complex ideas in an effective and understandable mani

An opposition should show that:

• the opponent challenged the reporter's understanding appropriate mathematics presented • the opponent cri 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.: Korea 5	Opp.: Iran 5	Rev.: China 5						
Physics ±3	Physics ±3	Physics ±3						
☐ Correct and relevant physics	☐ Correct and relevant physics	☐ Correct and relevant physics						
☐ Scientific approach	☐ Scientific approach	☐ Scientific approach						
☐ Validity of conclusions	☐ Validity of conclusions	☐ Validity of conclusions						
☐ Accurate answers	☐ Accurate answers	☐ Accurate answers						
Presentation ±1	Presentation ±1	Presentation ±1						
☐ Clear and understandable	☐ Clear and understandable	☐ Clear and understandable						
☐ Appropriate manner	Appropriate manner	☐ Appropriate manner						
Overall impression	☐ Overall impression	☐ Overall impression						
Reporter ±1	Opponent ±1	Reviewer ±1						
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion						
☐ Structure	☐ Shows the strong and weak points	Expresses own opinion about						
☐ Explanation of formulae and	of the report	topics presented or discussed						
symbols Appropriate models, conformity	☐ Finds shortcomings or errors in the report	Relevance of questions to both the reporter and the opponent						
of dimensions	☐ Relevance of the questions	☐ Draws attention to points missed						
Slides, on-site experiments, audio, video, as appropriate	☐ Contribution to the discussion	by the reporter or the opponent						
References, proper citations of ideas and input of others		This sheet will be collected by the fight assistant, so we can scan it and						
☐ Novelty of the report		fight assistant, so we com- archive your partial grades - please						
Contribution to the discussion		do not bend						
Final Grade: Reporter	Final Grade: Opponent Revised a	Final Grade: Reviewer fter IOC feedback and approved by EC on 2011-11-03						

Scoring Guidelines	
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JUVIIIIM GAIACIIIIC.)

Final Grade: Reporter

	Fight (Round no.): 4 Roor	n: Stage: Problem no.:				
Scoring Guidelii	1es Juror: STEVE ADAMS	Signature: S.F.Q. 7				
application of appropriate mathematics • r	ets, theories and principles of the problem • an eleasonable 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 u appropriate mathematics presented • the o 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				
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 on-trivial and demonstrated, where possible, the red by the reporter and the opponent	n evidence (not just superficial observations) •				
 The reporter, opponent and reviewer Consider the following suggestions to Select each partial grade from each se 	consists of a partial grade for <i>physics, 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.: KOREA 5	Opp.: 1 PAN 5	Rev.: CHINA 5				
Physics ±3	Physics ±3	Physics ±3				
☐ Correct and relevant physics	☐ Correct and relevant physics + 2	☐ Correct and relevant physics				
Scientific approach	Scientific approach	Scientific approach				
☐ Validity of conclusions Exp h	☐ Validity of conclusions	☐ Validity of conclusions				
☐ Accurate answers	☐ Accurate answers	☐ Accurate answers				
Presentation ±1	No arscuma when y stability Presentation ±1	Presentation ±1				
☐ Clear and understandable — Mosh	☐ Clear and understandable / + ○· 5	☐ Clear and understandable				
Appropriate manner Rushit	☐ Appropriate manner ✓ → ○ · 5 ·	☐ Appropriate manner				
☐ Overall impression	☐ Overall impression	U Overall impression				
Reporter ±1	Opponent ±1	Reviewer ±1				
☐ Quality of experimental technique(s) — +0.5	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 Brades				
Contribution to the discussion		do not bend				

Final Grade: Opponent

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Rep .: KOREA

symbols

of dimensions

video, as appropriate

☐ Novelty of the report

Final Grade: Reporter

	Fight (Pound no.): 4 Poor	D 2 D.11 44
Scoring Guidelii	Juror: STANISCAU PAKO	m: D Stage: 3 Problem no.: 11 Signature: Rang G.
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 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 trivial and demonstrated, where possible, the red by the reporter and the opponent	n evidence (not just superficial observations) a
The <i>reporter, opponent</i> and <i>reviewer</i> of Consider the following <i>suggestions</i> 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> . ction and <i>write it</i> in the corresponding box. to questions were posed or not finding shortc	
Rep.: KOREA 5	Opp.:	Rev. : <u>CHIN A</u> 5
hysics ± 3 ± 2	Physics ±3 +2	Physics ±3
Correct and relevant physics	☐ Correct and relevant physics	☐ Correct and relevant physics
Scientific approach	Scientific approach	E Scientific approach
Validity of conclusions	☐ Validity of conclusions	✓ Validity of conclusions
Accurate answers	☐ Accurate answers	Accurate answers
resentation ± 1	Presentation ±1 +1	Presentation ±1 0
Clear and understandable	⊞ Clear and understandable	☐ Clear and understandable
Annonriata manuar 7	177	I

Physics ±3 Correct and relevant physics ☑ Scientific approach ² □ Validity of conclusions 田 Accurate answers Presentation ±1 Clear and understandable ☐ Appropriate manner Too FACE Overall impression TIMED Reporter ±1 Quality of experimental technique(s) ☐ Structure **Explanation of formulae and**

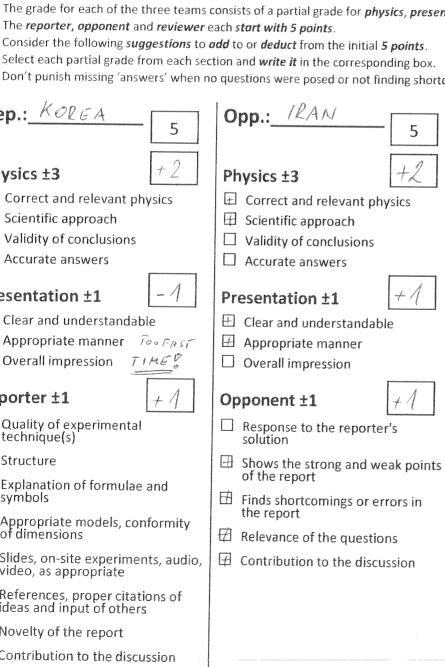
Appropriate models, conformity

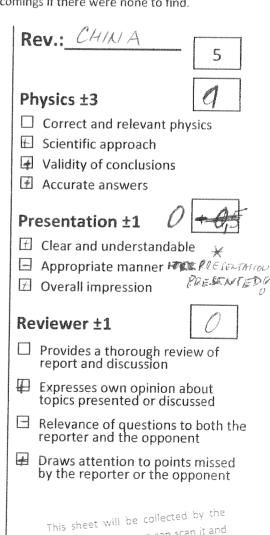
Slides, on-site experiments, audio,

☐ References, proper citations of

ideas and input of others

☐ Contribution to the discussion





Final Grade: Opponent



* HE POESENTED SAME PART FROM HIS PREJECTATION & Final Grade: Reviewer

fight assistant, so we can scan it and

archive your partial grades - please

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

do not bend

Scoring Guidelines Fight (Round no.): 4 Room: D Stage: 3 Problem no.: 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

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 sec 	add to or deduct from the initial 5 points. tion and write it in the corresponding box.	
Rep.: Korca 5	o questions were posed or not finding shortco	Rev.: Chiha 5
Physics ±3 Correct and relevant physics	Physics ±3 ☐ Correct and relevant physics	Physics ±3 Correct and relevant physics
☐ Scientific approach☐ Validity of conclusions☐ Accurate answers	☐ Scientific approach ☐ Validity of conclusions ☐ Accurate answers	☐ Scientific approach ☐ Validity of conclusions ☐ Accurate answers
Presentation ±1 Clear and understandable Appropriate manner Overall impression	Presentation ±1	Presentation ±1
Reporter ±1	Opponent ±1	Reviewer ±1
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion
☐ Structure☐ Explanation of formulae and symbols	☐ Shows the strong and weak points of the report ☐ Finds shortcomings or errors in	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 broom
Contribution to the discussion	. valentuuriteevatuuriteevatarentarentaren s. v. valentuutata kasta kasta kasta kasta kasta kasta kasta kasta k	do not bend
Final Grade: Reporter 16	Final Grade: Opponent	Final Crades Reviewer 5

Final Grade: Reviewer

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