		20	69 R 4	Lefter.	AFFINE	a party	100 100	6			and the same	1 4	3	-	-		
2	CO				\mathcal{G}	U	U		Q	2	Sales of the sales			The same	C	5	

Fight (Round no.): Room	: E Stage:	Problem no.:	7
Juror: (Ga MARTEGENIA)	Signaturo	And the second s	

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

An opposition should show that:

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

A review should show that:

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

principles and appropriate mathematics us	ed by the reporter and the opponent	reviewer's understanding of concepts, theories,
 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, presen</i> reach start with 5 points. To add to or deduct from the initial 5 points. The ection and write it in the corresponding box. The no questions were posed or not finding shorte	
Rep.: Cheus 5	Opp.: <u>UK</u> 5	Rev.: <u>Viççeia</u> 5
Physics ±3 Correct and relevant physics Scientific approach Validity of conclusions	Physics ±3 ☐ Correct and relevant physics ☐ Scientific approach ☐ Validity of conclusions	Physics ±3 Correct and relevant physics Scientific approach Validity of conclusions
Presentation ±1	☐ Accurate answers Presentation ±1 → \	☐ Accurate answers Presentation ±1
☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression	☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression	☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression
Reporter ±1	Opponent ±1	Reviewer ±1
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
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		archive your partial grades
Contribution to the discussion		do not bend
		1

Final Grade: Reporter

Final Grade: Opponent





Scoring Guideli	noc		n: Stage: Pro Signature:	blem no.: 7
A report should include: • a presentation of the appropriate concept application of appropriate mathematics • reappropriate) • linking of theoretical and a complex ideas in an effective and understant	easonable experimental techniqu e experimental findings to draw su	to gather and i	record data for demonstrate the	nhanamana if
An opposition should show that: • the opponent challenged the reporter's unappropriate mathematics presented • the opponent appreciated and highlighted the state.	nderstanding of the presented cor pponent critiqued the experiment	a l techniqu e use	and <i>principles</i> • the opponent ur d and questioned the <i>validity</i> of t	iderstood the he <i>data</i> • the
A review should show that: • the reviewer succeeded in giving an object important aspects (especially the controver, such personal opinions were informative, no principles and appropriate mathematics use	sial ones) • the reviewer's <i>persona</i> on-trivial and demonstrated, when	<i>II opinion was i</i> n ≘possible, the re	evidence Inat just concepticial ab	
The grade for each of the three teams The <i>reporter</i> , <i>opponent</i> and <i>reviewer</i> Consider the following <i>suggestions</i> to Select each partial grade from each see Don't punish missing 'answers' when r	each <i>start with 5 points.</i> <i>add</i> to or <i>deduct</i> from the initia ction and <i>write it</i> in the corresp	ol <i>5 points</i> .		
Rep.: China 5	Opp.: <u>UK</u>	5	Rev.: Nigaria	5
hysics ±3	Physics ±3		Physics ±3	-35
Correct and relevant physics	☐ Correct and relevant p	hysics	☐ Correct and relevant	ohysics
Scientific approach	☐ Scientific approach		☐ Scientific approach	
Validity of conclusions	☐ Validity of conclusions	;	☐ Validity of conclusions	>
Accurate answers	☐ Accurate answers	groommannon on our designation of the contraction o	Accurate answers	
resentation ±1	Presentation ±1	0	Presentation ±1	0

Pł	nysics ±3 Correct and relevant ph	-2
	Scientific approach	iysics
	Validity of conclusions	
	Accurate answers	
Pr	esentation ±1	-0.6
	Clear and understandab Appropriate manner	le
	Overall impression	
Re	porter ±1	-0,5
	Quality of experimental technique(s)	The contract of the contract o
	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

symbols

of dimensions

video, as appropriate

☐ Novelty of the report

Final Grade: Reporter

Opp.: <u>UK</u> 5	R
Physics ±3 Correct and relevant physics Scientific approach Validity of conclusions Accurate answers Presentation ±1 Clear and understandable Appropriate manner Overall impression	P
Opponent ±1	Re
Response to the reporter's solution	
☐ Shows the strong and weak points of the report	
Finds shortcomings or errors in the report	
☐ Relevance of the questions	
☐ Contribution to the discussion	

1	
	Physics ±3
	☐ Correct and relevant physics
	☐ Scientific approach
	☐ Validity of conclusions
	☐ Accurate answers
	Presentation ±1
	☐ Clear and understandable
	☐ Appropriate manner
	Overall impression
-	Reviewer ±1
	Provides a thorough review of report and discussion
ts	Expresses own opinion about topics presented or discussed
	Relevance of questions to both the reporter and the opponent
	Draws attention to points missed by the reporter or the opponent
	This sheet will be collected by the fight assistant, so we can scan it and

archive your P

do not bend

Final Grade: Opponent

	Fight (Round no.): 1/1 Roo	m: E Stage: 1 Problem no.:
Scoring Guideli	ines Juror: A. Kunskelijew	Signature:
	- Chi Maria III	_ Signature.
application of appropriate mathematics *	epts, theories and principles of the problem • an reasonable experimental technique to gather and experimental findings to draw suitable conclusions.	record data for domance that the standard
complex ideas in an effective and understa	undable manner	ons • an attempt to communicate difficult or
An opposition should show that • the opponent challenged the reporter's appropriate mathematics presented • the opponent appreciated and highlighted the statements.	understanding of the presented concepts, theories	and <i>principles</i> • the opponent understood the ed and questioned the <i>validity</i> of the <i>data</i> • the
A review should show that:		
mportant aspects (especially the controve	ective summary of the performances the reporter rsial ones) • the reviewer's personal opinion was in non-trivial and demonstrated, where possible, the red by the reporter and the opponent	n cuidongo / mativist avenue fini f
 Consider the following suggestions to Select each partial grade from each se 	s consists of a partial grade for <i>physics, presen</i> reach <i>start with 5 points</i> . The partial grade for <i>physics, presen</i> of add to or <i>deduct</i> from the initial <i>5 points</i> . The partial grade is a start of the corresponding box. The partial grade is a partial grade in the corresponding short of the partial grade is a partial grade in the corresponding short of the partial grade is a partial grade in the partial grade in the partial grade is a partial grade in the partial grade in the partial grade is a partial grade in the partial grade in the partial grade for physics, present a partial grade for	
Rep.: 5	Opp.: 5	Rev.: 5
Physics ±3	Physics ±3	
☐ Correct and relevant physics	☐ Correct and relevant physics	Physics ±3
☐ Scientific approach	Scientific approach	☐ Correct and relevant physics ☐ 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 fight assistant, so we can scan it and
☐ Novelty of the report		fight assistant, so we control archive your partial grades — please
☐ Contribution to the discussion		do not bend
Final Grade: Reporter	Final Grade: Opponent 5	Final Grade: Reviewer

Scori

Cooring Carial Is	Fight (Round no.): Roo	m: Stage: Problem no.:
Scoring Guidelin	165 Juror: PHILIP O'NEIL	C Signature: Som aill
application of appropriate mathematics • 16	ets, theories and principles of the problem • an easonable experimental technique to gather and experimental findings to draw suitable conclusions.	explanation of the observed phenomena • an record data (or demonstrate the phenomena if 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 st	nderstanding of the presented concepts, theories	and <i>principles</i> • the opponent understood the ed and questioned the <i>validity</i> of the <i>data</i> • the
important aspects (especially the controvers	ctive summary of the performances the reporter sial ones) • the reviewer's personal opinion was an-trivial and demonstrated, where possible, the d by the reporter and the opponent	in evidence (not just superficial observations)
 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. ction and write it in the corresponding box. to questions were posed or not finding shorte	
Rep.: <u>CHINA</u> 5	Opp.: 0K 5	Rev.: NIGERIA 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 Clear and understandable Appropriate manner	Presentation ±1 Clear and understandable Appropriate manner
Reporter ±1	Opponent ±1	Overall impression Reviewer ±1
Quality of experimental technique(s) Structure Explanation of formulae and	Response to the reporter's solution Shows the strong and weak points of the report	Provides a thorough review of report and discussion Expresses own opinion about topics presented or discussed
symbols Appropriate models, conformity of dimensions Slides, on-site experiments, audio	 ☐ Finds shortcomings or errors in the report ☐ Relevance of the questions ☐ Contribution to the discussion 	Relevance of questions to both th reporter and the opponent Draws attention to points missed by the reporter or the opponent
video, as appropriate References, proper citations of ideas and input of others Novelty of the report		This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades — please

Final Grade: Reporter

☐ Contribution to the discussion



Final Grade: Opponent



Final Grade: Reviewer

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

Scoring Guideline	5
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Fight (Round no.): 1 Room: E Stage: 1 Problem no.: F

A report should include:

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

An opposition should show that:

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

A review should show that:

Final Grade: Reporter

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

	o questions were posed or not finding shortc	omings if there were none to find.
Rep.: 5	Opp.: 5	Rev.: 5
Physics ±3 Correct and relevant physics Scientific approach Validity of conclusions Accurate answers	Physics ±3 Correct and relevant physics Scientific approach Validity of conclusions Accurate answers	Physics ±3 ☐ Correct and relevant physics ☐ Scientific approach ☐ Validity of conclusions ☐ Accurate answers
Presentation ±1 ☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression	Presentation ±1 ☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression	Presentation ±1 ☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression
Reporter ±1	Opponent ±1	Reviewer ±1
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion
☐ Structure	Shows the strong and weak points of the report	Expresses own opinion about topics presented or discussed
Explanation of formulae and symbols	Finds shortcomings or errors in the report	Relevance of questions to both the reporter and the opponent
Appropriate models, conformity of dimensions	Relevance of the questions	Draws attention to points missed by the reporter or the opponent
Slides, on-site experiments, audio, video, as appropriate	☐ Contribution to the discussion	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 fight assistant, so we are archive your partial grades – please
Contribution to the discussion		do not bend

Final Grade: Opponent

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		 _	~	_		-	Diam.	400	\$22	A000-10	- ANDERSON	# .	89	52	<u> </u>	(C)	Contract of	

Fight (Round no.):	Room:	E	Stage:		Problem no.: _	7
Juror: Matties An	lemo-	Signatur	e:	M4		

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 sec 	ction and write it in the corresponding box. o questions were posed or not finding shortc	omings if there were none to find.
Rep.: China 5	Opp.: UK 5	Rev.: Nigeria 5
Physics ±3 +2	Physics ±3	Physics ±3 -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 by the reporter or the opponent
Slides, on-site experiments, audio, video, as appropriate	☐ Contribution to the discussion	by the reporter or the opponent Only general comments
References, proper citations of ideas and input of others		The collected by the
☐ Novelty of the report		This sheet will be been scan it and fight assistant, so we can scan it and archive your partial grades — please
Contribution to the discussion		do not bend
7		p.

		Fight (Round no.):
Scoring	Guidelines	lurar 10 : 1100 m

Room: Stage: 2 Problem no.: \ Juror: Wys MARTENENTO Signature:

Α	report	should	include:
	· Cporc		muuc.

• 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 th

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

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						Street S											

Rep.: UK

Physics ±3

☐ Correct and relevant physics

☐ Scientific approach ☐ Validity of conclusions

☐ Accurate answers

Presentation ±1

Reporter ±1

☐ Structure

References, proper citations of ideas and input of others

☐ Contribution to the discussion

☐ Clear and understandable

Appropriate manner ☐ Overall impression

Scoring Guideli	noc	m: _ E Stage: 2 Problem no.: _15
	Juror: Ustery HEM, Horian	Signature: F. Orleans
application of appropriate mathematics •	epts, theories and principles of the problem • an reasonable experimental technique to gather and experimental findings to draw suitable conclusions and able manner	record data for demonstrate the phenomena if
An opposition should show that the opponent challenged the reporter's appropriate mathematics presented • the opponent appreciated and highlighted the	understanding of the presented concepts, theories opponent critiqued the experimental technique us	and <i>principles</i> • the opponent understood the ed and questioned the <i>validity</i> of the <i>data</i> • the
important aspects (especially the controve	ective summary of the performances the reporter irsial ones) • the reviewer's personal opinion was intervival and demonstrated, where possible, the red by the reporter and the opponent	n evidence (not just superficial observations) .
The <i>reporter</i> , <i>opponent</i> and <i>reviewer</i> Consider the following <i>suggestions</i> to Select each partial grade from each so	s consists of a partial grade for <i>physics, presen</i> reach start with 5 points. To add to or deduct from the initial 5 points. The ection and write it in the corresponding box. The no questions were posed or not finding shorts.	
Rep.:	Opp.: Nigeria 5	Rev.: China 5
hysics ±3	Physics ±3	Physics ±3
Correct and relevant physics	☐ Correct and relevant physics	☐ Correct and relevant physics
Scientific approach	Scientific approach	☐ Scientific approach
☐ Validity of conclusions	☐ Validity of conclusions	☐ Validity of conclusions
Accurate answers	Accurate answers	☐ Accurate answers
resentation ±1	Presentation ±1	Presentation ±1
Clear and understandable	☐ Clear and understandable	☐ Clear and understandable
Appropriate manner	☐ Appropriate manner	☐ Appropriate manner
Overall impression	Overall impression	☐ Overall impression
eporter ±1	Opponent ±1	Reviewer ±1 † O, S
l 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	-	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 fight assistant as a single fight assistant as a single fight assistant as a single fight

Final Grade: Reporter

Final Grade: Opponent

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

		Golf Gell
	Fight (Round no.): Roo	m: Stage:
Scoring Guideli	nes Jurgr: Aksillelijer	Signature:
		UNS
A report should include:	nts theories and principles of the such live	
application of appropriate mathematics • 1	ots, theories and principles of the problem • an reasonable experimental technique to gather and experimental findings to draw suitable conclusingable manner	record data for demonstrate the phonomena if
An opposition should show that: • the opponent challenged the reporter's unappropriate mathematics presented • the component appreciated and highlighted the state.	anderstanding of the presented concepts, theories	and <i>principles</i> • the opponent understood the ed and questioned the <i>validity</i> of the <i>data</i> • the
A review should show that:		
• the reviewer succeeded in giving an obje	ctive summary of the performances the reporter	and opponent • the reviewer appreciated the
important aspects (especially the controver	isial ones) • the reviewer's <i>personal opinion</i> was i on-trivial and demonstrated, where possible, the r	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 shorte	
Rep.:	Opp.:	Barri
5	5 S	Rev.: 5
Physics ±3	Physics ±3	Physics ±3
Correct and relevant physics	Correct and relevant physics	Correct and relevant physics
☐ Scientific approach☐ Validity of conclusions	Scientific approach	☐ Scientific approach
Accurate answers	☐ Validity of conclusions	☐ Validity of conclusions
The condition of the constraints	☐ Accurate answers	☐ Accurate answers
Presentation ±1	Presentation ±1	Presentation ±1
☐ Clear and understandable	☐ Clear and understandable	☐ Clear and understandable
☐ Appropriate manner	☐ Appropriate manner	☐ Appropriate manner
Overall impression	Overall impression	☐ Overall impression
Reporter ±1	Opponent ±1	Reviewer ±1 0.3
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
☐ Novelty of the report		fight assistant, so we can be archive your partial grades — please

Final Grade: Opponent

 \Box 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.):	Roon	n: <u>E</u> Stage: <u>2</u>	Problem no.: /
Scoring (duideline) C		Signature: 140	
application of appropria	appropriate <i>concepts, th</i> te mathematics • reason f <i>theoretical</i> and <i>experi</i>	nable experimental technique I <i>imental findings</i> to draw <i>su</i>	e to <i>aather</i> and <i>i</i>	explanation of the observed precord data (or demonstrate on an attempt to communicate or series of the communication of the communicati	the nhenomena if
appropriate mathematic	ed the reporter's unders s presented • the oppone	tanding of the presented cor ent critiqued the experiment ths and weaknesses of the re	al technique use	and <i>principles</i> • the opponer d and questioned the <i>validity</i>	nt understood the
such personal opinions w	d in giving an <i>objective</i> s cially the <i>controversial</i> or ere <i>informative</i> , <i>non-triv</i>	nes) • the reviewer's <i>persona</i>	<i>al opinion</i> was in a possible, the re	and opponent • the reviewed evidence (not just superficion eviewer's understanding of co	al observations) a
The reporter, opponeConsider the followinSelect each partial gr	ent and reviewer each ig suggestions to add t ade from each section	start with 5 points. to or deduct from the initia and write it in the corresp	al 5 points . onding box.	ation and for their specific	
Rep.: <u>UK</u>	50	pp.: NI 6 ETM	5	Rev.: CHINA	5
Physics ±3 Correct and releva Scientific approach Validity of conclusi Accurate answers	nt physics	hysics ±3 Correct and relevant p Scientific approach Validity of conclusions Accurate answers		Physics ±3 ☐ Correct and releva ☐ Scientific approach ☐ Validity of conclus ☐ Accurate answers	h
Presentation ±1	Pr	resentation ±1	0	Presentation ±1	- 1/2
☐ Clear and understa☐ Appropriate manne☐ Overall impression	1	Clear and understanda Appropriate manner Overall impression	able	☐ Clear and understa☐ Appropriate mann☐ Overall impression	er
Reporter ±1	4. 0	oponent ±1	0	Reviewer ±1	1 24
Quality of experime technique(s)	-	Response to the report	ter's	☐ Provides a thoroug	h review of
☐ Structure		Shows the strong and	weak points	report and discussion Expresses own opin	
Explanation of form symbols	ulae and	of the report		topics presented or	r discussed
☐ Appropriate models	s, conformity	Finds shortcomings or the report	ionahamala jaga	Relevance of quest reporter and the op-	ions to both the oponent
of dimensions Slides, on-site expervideo, as appropriat	riments, audio,	Relevance of the quest Contribution to the dis-	1	Draws attention to by the reporter or t	points missed he opponent
References, proper ideas and input of o	citations of			This sheet will be co	ollected by the
☐ Novelty of the repor				This sheet will be defined assistant, so we archive your partial (CSH acer
☐ Contribution to the				do not bend	

Final Grade: Opponent

Final Grade: Reporter



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Fight (Round no.): 2 Room: E Stage: 2 Problem no.:	15
Juror: A. NADOLIVY Signature: Malely	

• 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 r 	no questions were posed or not finding shortc	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	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 can a please archive your partial grades — please
Contribution to the discussion		do not bend
Final Grade: Reporter	Final Grade: Opponent	Final Grade: Reviewer 5

Final Grade: Opponent

Scoring Guidelines	Fight (Round no.): Room: E Stage: 2 Problem no.: 13 Juror: Mathias Anderson Signature: MA
A	

• 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 c

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 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</i> , <i>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.:	Opp.: Nigeria 5	Rev.: China 5							
Physics ±3 ☑ Correct and relevant physics	Physics ±3 ☐ Correct and relevant physics	Physics ±3							
☐ Scientific approach	☐ Scientific approach	☐ Correct and relevant physics ☐ 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 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								
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							
\square Novelty of the report		fight assistant, so we con- archive your partial grades – please							
Contribution to the discussion		do not bend							
Final Grade: Reporter 5	Final Grade: Opponent	Final Grade: Poviouer 5							

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

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Rep .: Pigeeta

☐ Scientific approach

☐ Accurate answers

Presentation ±1

☐ Appropriate manner

☐ Overall impression

Reporter ±1

☐ Structure

☐ Validity of conclusions

☐ Clear and understandable

Appropriate models, conformity of dimensions

☐ References, proper citations of ideas and input of others

☐ Contribution to the discussion

☐ Correct and relevant physics

Physics ±3

Scoring Guideli	Fight (Round no.): Room Nes Juror: Lyn MARTCHEAN	m: Stage: 3 Problem no.:
application of appropriate mathematics \bullet (ots, theories and principles of the problem • an reasonable experimental technique to gather and experimental findings to draw suitable conclusionable manner	record data for demonstrate the phenomena if
An opposition should show that the opponent challenged the reporter's unappropriate mathematics presented the copponent appreciated and highlighted the state of the component appreciated and highlighted the state of the state	nderstanding of the presented concepts, theories	and <i>principles</i> • the opponent understood the ed and questioned the <i>validity</i> of the <i>data</i> • the
A review should show that: • the reviewer succeeded in giving an obje important aspects (especially the controver)	ctive summary of the performances the reporter sial ones) • the reviewer's personal opinion was in pontrivial and demonstrated, where possible, the re	n evidence (not just superficial abcomptions)
Consider the following suggestions to Select each partial grade from each se	consists of a partial grade for <i>physics, presen</i> each <i>start with 5 points</i> . <i>add</i> to or <i>deduct</i> from the initial <i>5 points</i> . ction and <i>write it</i> in the corresponding box. no questions were posed or not finding shorto	
Rep.: Pigeria 5	Opp.: China 5	Rev.: <u>UK</u> 5
Correct and relevant physics Correct and rele	Physics ±3 Correct and relevant physics Scientific approach Validity of conclusions Accurate answers Presentation ±1 Clear and understandable Appropriate manner Overall impression	Physics ±3 ☐ Correct and relevant physics ☐ Scientific approach ☐ Validity of conclusions ☐ Accurate answers Presentation ±1 ☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression
eporter ±1	Opponent ±1	Reviewer ±1
Quality of experimental technique(s) Structure	Response to the reporter's solution	Provides a thorough review of report and discussion
Explanation of formulae and symbols Appropriate models, conformity of dimensions Slides, on-site experiments, audio, video, as appropriate	Shows the strong and weak points of the report Finds shortcomings or errors in the report Relevance of the questions Contribution to the discussion	Expresses own opinion about topics presented or discussed Relevance of questions to both the reporter and the opponent Draws attention to points missed by the reporter or the opponent
References, proper citations of ideas and input of others Novelty of the report		This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades — please

Final Grade: Reporter

☐ 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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Scoring Guidelii		m: Stage: 3 Problem no.: 5					
	Juror: OSTERMHER, Floran	_ Signature: _ CSW					
application of appropriate mathematics • re	ts, theories and principles of the problem • an easonable experimental technique to gather and experimental findings to draw suitable conclusionable manner	record data (or demonstrate the phenomena if					
An opposition should show that: • the opponent challenged the reporter's unappropriate mathematics presented • the opponent appreciated and highlighted the 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					
A review should show that: • the reviewer succeeded in giving an object important aspects (especially the controvers)	tive summary of the performances the reporter sial ones) • the reviewer's personal opinion was intrivial and demonstrated, where possible, the r	n evidence (not just superficial observations)					
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> . ation and <i>write it</i> in the corresponding box. o questions were posed or not finding shortc						
Rep.: Nigeria 5	Opp.: China 5	Rev.: <u>Ü</u> Κ 5					
hysics ±3	Physics ±3	Physics ±3					
Correct and relevant physics	☐ Correct and relevant physics	☐ Correct and relevant physics					
Scientific approach	☐ Scientific approach	☐ Scientific approach					
Validity of conclusions	☐ Validity of conclusions	☐ Validity of conclusions					
Accurate answers	☐ Accurate answers	☐ Accurate answers					
resentation ±1	Presentation ±1	Presentation ±1					
Clear and understandable	☐ Clear and understandable	☐ Clear and understandable					
Appropriate manner	☐ Appropriate manner	☐ Appropriate manner					
Overall impression	Overall impression	Overall impression					
eporter ±1	Opponent ±1	Reviewer ±1					
Quality of experimental technique(s)	Response to the reporter's 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					
Appropriate models, conformity	the report	Relevance of questions to both the reporter and the opponent					

Reporter ±1

Physics ±3

☐ Quality of experimental

☐ Correct and relevant physics

☐ Scientific approach

Presentation +1

☐ Validity of conclusions ☐ Accurate answers

☐ Clear and understandable

☐ Appropriate manner

☐ Overall impression

☐ Structure

Explanation of formulae and symbols

☐ Appropriate models, conformity of dimensions

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

References, proper citations of ideas and input of others

☐ Novelty of the report

Final Grade: Reporter

☐ Contribution to the discussion

Final Grade: Opponent

☐ Relevance of the questions

☐ Contribution to the discussion



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

do not bend

Draws attention to points missed by the reporter or the opponent

This sheet will be collected by the

fight assistant, so we can scan it and

archive your partial grades - piease



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Fight (Round no.): Room: E Stage: 3 Problem no.: 5

Juror: Arkywleliew Signature:

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.

	no questions were posed or not finding shortc	omings if there were none to find.					
Rep.: 5	Opp.: 5	Rev.: 5					
Physics ±3 Correct and relevant physics Scientific approach Validity of conclusions Accurate answers Presentation ±1 Clear and understandable	Physics ±3 ☐ Correct and relevant physics ☐ Scientific approach ☐ Validity of conclusions ☐ Accurate answers Presentation ±1 ☐ Clear and understandable	Physics ±3 ☐ Correct and relevant physics ☐ Scientific approach ☐ Validity of conclusions ☐ Accurate answers Presentation ±1 ☐ Clear and understandable					
☐ Overall impression	☐ Appropriate manner ☐ Overall impression	☐ Appropriate manner ☐ Overall impression					
Reporter ±11	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 the report	Expresses own opinion about topics presented or discussed 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 grades					
Contribution to the discussion	production	do not bend					

Final Grade: Opponent

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

C	Fight (Round no.	.): Roo	m: <u>E</u> Stage: <u>3</u> Problei	m no.:				
Scoring Guideli	noc		Signature:					
A report should include:								
• a presentation of the appropriate concept application of appropriate mathematics • appropriate) • linking of theoretical and complex ideas in an effective and understant	reasonable experimental technic <i>experimental findings</i> to draw	ue to <i>aather</i> and	record data for demonstrate the nhe	nomona if				
An opposition should show that: • the opponent challenged the reporter's u appropriate mathematics presented • the o opponent appreciated and highlighted the si	inderstanding of the presented o	ntal technique us	and <i>principles</i> • the opponent under ed and questioned the <i>validity</i> of the <i>a</i>	rstood the data • the				
A review should show that: • the reviewer succeeded in giving an objectimportant aspects (especially the controver such personal opinions were informative, no principles and appropriate mathematics use	<i>sial</i> ones) • the reviewer's <i>perso</i> on-trivial and demonstrated, who	onal opinion was ere possible, the	in avidance Inat just connecticial above					
 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 research 	each start with 5 points. add to or deduct from the iniction and write it in the corre	itial <i>5 points</i> .						
Rep.: NIGERIA 5	Opp.: CHINA	5	Rev.:	5				
Physics ±3	Physics ±3	è	Physics ±3	3				
☐ Correct and relevant physics☐ Scientific approach☐ Validity of conclusions☐ Accurate answers	☐ Correct and relevant ☐ Scientific approach ☐ Validity of conclusio ☐ Accurate answers		☐ Correct and relevant physics ☐ Scientific approach ☐ Validity of conclusions ☐ Accurate answers					
Presentation ±1	Presentation ±1	+{	Presentation ±1	1				
Clear and understandable Appropriate manner Overall impression	☐ Clear and understan☐ Appropriate manner☐ Overall impression		☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression					
Reporter ±1	Opponent ±1	-4	Reviewer ±1	0				
Quality of experimental technique(s)	Response to the reposolution	orter's	Provides a thorough revier report and discussion					
Structure Explanation of formulae and	Shows the strong and of the report	d weak points	Expresses own opinion about topics presented or discussed					
symbols	Finds shortcomings of the report	or errors in	Relevance of questions to both the reporter and the opponent					
of dimensions	Relevance of the que		Draws attention to points missed by the reporter or the opponent					
☐ Slides, on-site experiments, audio, video, as appropriate	Contribution to the d	iscussion						
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 Final Grade: Reporter	Final Grade: Opponent	Revised	do not bend Final Grade: Reviewer after IOC feedback and approved by EC on 2	7				

	,							
Scoring Guideli		m: E Stage: 3 Problem no.: 5						
	Juror: A. NADOLIVY	_ Signature: Meelo hy						
A report should include:								
$ $ application of appropriate mathematics \circ 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 state.	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 reviewer's personal opinion was in the reviewer 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 see Don't punish missing 'answers' when r	add to or deduct from the initial 5 points. ction and write it in the corresponding box. no questions were posed or not finding shorts Opp.: China							
5	5	5						
Physics ±3 Correct and relevant physics	Physics ±3	Physics ±3						
Scientific approach	☐ Correct and relevant physics ☐ Scientific approach	☐ Correct and relevant physics						
☐ Validity of conclusions	☐ Validity of conclusions	☐ Scientific approach ☐ Validity of conclusions						
Accurate answers	☐ Accurate answers	☐ Accurate answers						
Presentation ± 1 -0.5	Presentation ±1 0,5	Presentation ±1						
Clear and understandable	☐ Clear and understandable	☐ Clear and understandable						
J Appropriate manner Overall impression	☐ Appropriate manner	Appropriate manner						
Overall impression	Overall impression	☐ Overall impression						
eporter ±1 ~ 0.5	Opponent ±1 0,5	Reviewer ±1 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 the report	topics presented or discussed Relevance of questions to both th 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						

 \square Contribution to the discussion Final Grade: Reporter

References, proper citations of ideas and input of others

☐ Novelty of the report

Final Grade: Opponent

do not bend

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 - piease

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Scoring Guideli	right (Round no.):l Roon No.):l Roon No.):l Roon No.):l Roon No.):l Roon No.]:l	m: <u>E</u> Stage: <u>3</u> Problem no.: <u>5</u>				
application of appropriate mathematics •	epts, 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 appropriate mathematics presented • the opponent appreciated and highlighted the	understanding of the presented concepts, theories opponent 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				
important aspects (especially the controve	ective summary of the performances the reporter ersial ones) • the reviewer's personal opinion was in non-trivial and demonstrated, where possible, the related by the reporter and the opponent	n evidence (not just superficial observations)				
The <i>reporter</i> , <i>opponent</i> and <i>reviewe</i> Consider the following <i>suggestions</i> to Select each partial grade from each s	s consists of a partial grade for <i>physics, presen</i> reach start with 5 points. To add to or deduct from the initial 5 points. The ection and write it in the corresponding box. The no questions were posed or not finding shortcomes.					
ep.: Nigeria 5	Opp.: Ching 5	Rev.: <i>UK</i> 5				
hysics ± 3 -2	Physics ±3 +2	Physics ±3 +1				
Correct and relevant physics —	☑ Correct and relevant physics	☐ Correct and relevant physics				
Scientific approach	☐ Scientific approach	☐ Scientific approach				
Validity of conclusions	☑ Validity of conclusions	☐ Validity of conclusions				
Accurate answers	☐ Accurate answers	☐ Accurate answers				
resentation ±1	Presentation ±1	Presentation ±1				
Clear and understandable	Clear and understandable					

 Don't punish missing 'answers' when n 	o questions were posed or not finding shortc	omings if there were none to find.
Rep.: Nigeria 5	Opp.: Ching 5	Rev.: 1/K 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) Structure Explanation of formulae and symbols Appropriate models, conformity of dimensions Slides, on-site experiments, audio, video, as appropriate References, proper citations of ideas and input of others	Opponent ±1 ☐ Response to the reporter's solution ☐ Shows the strong and weak points of the report ☐ Finds shortcomings or errors in the report ☐ Relevance of the questions ☐ Contribution to the discussion	Reviewer ±1 ☐ Provides a thorough review of report and discussion ☐ Expresses own opinion about topics presented or discussed ☐ Relevance of questions to both reporter and the opponent ☐ Draws attention to points misse by the reporter or the opponent ☐ Brought up iwalked to the This sheet will be collected by the
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ınderstandable e manner pression thorough review of discussion wn opinion about ented or discussed of questions to both the d the opponent ntion to points missed orter or the opponent

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