Scoring Guidelines	Fight (Round no.): Room: Stage:	3 Problem no.: 5
	Juror: <u>Um Treimann</u> Signature:	
A report should include: • a presentation of the appropriate concents, the	ories and principles of the making and are	

• 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.: Sovenia 5	Opp.: Belanus 5	Rev.: Bazil 5
Physics ±3 -2	Physics ±3	Physics ±3
Correct and relevant physics	E 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
Presentation ±1	Presentation ±1	Presentation ±1
Clear and understandable	Clear and understandable	☐ Clear and understandable
Appropriate manner	☐ Appropriate manner	☐ Appropriate manner
☐ Overall impression	Overall impression	☐ Overall impression
Reporter ±1	Opponent ±1	Reviewer ±1
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion
☐ Structure	☐ Shows the strong and weak points	Expresses own opinion about
☐ Explanation of formulae and	of the report	topics presented or discussed
symbols	Finds shortcomings or errors in the report	Relevance of questions to both the
Appropriate models, conformity of dimensions	Relevance of the questions	reporter and the opponent
Slides, on-site experiments, audio, video, as appropriate	Contribution to the discussion	Draws attention to points missed by the reporter or the opponent
References, proper citations of ideas and input of others		This sheet will be collected by the
☐ Novelty of the report		This sheet will be or an scan it and fight assistant, so we can scan it and archive your partial grades — please
☐ Contribution to the discussion		do not bend
Final Grade: Reporter	Final Grade: Opponent	Final Grade: Reviewer

(Rejected 15, 17, 12, 11, 16)

Scoring Guidelines

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 Don't punish missing 'answers' when n 	tion and <i>write it</i> in the corresponding box. o questions were posed or not finding shortco	omings if there were none to find.
Rep.: <u>Slovenia</u> 5 (Mals Lonan) 5	Opp.: Belarus 5 (Tatsiana Pyzhyk) 5	Rev.: Brazi 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 of dimensions	Finds shortcomings or errors in the report	Relevance of questions to both the reporter and the opponent
	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		This sheet will be used and fight assistant, so we can scan a and archive your partial grades — a ease
Contribution to the discussion		do not bend
Final Grade: Reporter 3	Final Grade: Opponent	Final Grade: Reviewer

S	C	0		September 19		Contract of the Contract of th	a	G	U		d	0	CANADA CANADA	CONTROL OF		Sales of the last	e	S	,
-	1000	4805	88	65	86	88		- Contract of the Contract of	600 B	8		Section	B	\$	₽.	8	Carrie		

1			(Street and a street and a stre
Fight (Round no.): Room	<u>U</u> :	_Stage; <u>S</u>	_ Problem no.:
Juror: X. WIERLAUS	Signatur	e: <u> </u>	Valuelaus

• 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. To questions were posed or not finding shortcomes.	omings if there were none to find.
Rep.:	Opp.: 5	Rev.: 5
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	Physics ±3 Correct and relevant physics Scientific approach Validity of conclusions Accurate answers Presentation ±1 Clear and understandable Appropriate manner Coverall 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	Response to the reporter's solution Shows the strong and weak points of the report Finds shortcomings or errors in the report Relevance of the questions Contribution to the discussion	Provides a thorough review of report and discussion Expresses own opinion about topics presented or discussed Relevance of questions to both the reporter and the opponent Draws attention to points missed by the reporter or the opponent This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades - pleasa
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 2011-11-03

and the second							4			8	8	,	æ	6	9			
1	r e	7 <i>/</i>	7	r	d i	M.	f	engg	and the second				-	Ħ	-	4		
Carlos V	~ ~	# #	8	题		g	•		e e								2	

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

Juror: D. WHARAM Signature:

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.: SLOVENIA 5	Opp.: BELARUS 5	Rev.: BRAZIL 5
Physics ±3	Physics ±3	Physics ±3
Correct and relevant physics Scientific approach Validity of conclusions Accurate answers	Correct and relevant physics 2 Scientific approach Validity of conclusions Accurate answers	Correct and relevant physics Scientific approach Validity of conclusions Accurate answers
Presentation ±1 Clear and understandable Appropriate manner Overall impression	Presentation ±1 Clear and understandable Appropriate manner Overall impression	Presentation ±1 ☐ 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 Finds shortcomings or errors in	Expresses own opinion about topics presented or discussed
Appropriate models, conformity of dimensions	the report Relevance of the questions	Relevance of questions to both the reporter and the opponent Draws attention to points missed
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 seen it and
Novelty of the report Contribution to the discussion		fight assistant, 30 mease archive your partial grades — prease do not bend
Final Grade: Reporter 2	Final Grade: Opponent	Final Grade: Reviewer

Sco

	Fight (Round no.):	m: Stage: Problem no.:
Scoring Guidelin		Signature: Sey Judit
application of appropriate mathematics • re	easonable experimental technique to gather and xperimental findings to draw suitable conclusi	explanation of the observed phenomena • an record data (or demonstrate the phenomena if ons • 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 oponent critiqued the experimental technique us rengths and weaknesses of the report	and <i>principles</i> • the opponent understood the ed and questioned the <i>validity</i> of the <i>data</i> • the
I important aspects (especially the controvers	tive summary of the performances the reporter ial ones) • the reviewer's personal opinion was n-trivial and demonstrated, where possible, the d by the reporter and the opponent	n avidance (not just as noticial above s
 The reporter, opponent and reviewer expensions to a consider the following suggestions to a select each partial grade from each second consider the following suggestions. 	consists of a partial grade for <i>physics, preser</i> each start with 5 points. add to or deduct from the initial 5 points. Stion and write it in the corresponding box. To questions were posed or not finding shorts	
Rep.: Slubeara 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

Present

Appropriate manner

☐ Overall impression

Reporter ±1

」 Structure

Quality of experimental

technique(s)

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

☐ Appropriate manner ☐ Overall impression Opponent ±1 solution of the report

Response to the reporter's

Shows the strong and weak points

Finds shortcomings or errors in the report

☐ Relevance of the questions

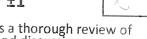
Contribution to the discussion

and understandable

☐ Appropriate manner

☐ Overall impression

Reviewer ±1



Provides a thorough review of report and discussion

Expresses own opinion about topics presented or discussed

Relevance of questions to both the reporter and the opponent

Draws attention to points missed by the reporter or the opponent

This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades - clease

do not bend

Final Grade: Opponent



No.			8	1				ALCOHOLD !	b		8		7	Ä	1 6	9		
-			農	B	7			e e		嚴	E			- 8	ā	B.	4	P
	C	<i>i</i>	N.				9		6	Æ	ı	W	C	H	No.	H	Ø)
						Secretary Secret								_	_	_	_	

Fight (Round no.):	Room: Stage: Problem no.:
Juror: <u>YE YEO</u>	Signature:

• 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 Don't punish missing 'answers' when need to be a selected from each sec 	tion and <i>write it</i> in the corresponding box. o questions were posed or not finding shortco	omings if there were none to find.
Rep.: 5	Opp.:5	Rev.: 5
Physics ±3 Correct and relevant physics Scientific approach Validity of conclusions Accurate answers	Physics ±3 Correct and relevant physics Scientific approach Validity of conclusions Accurate answers	Physics ±3 ☐ Correct and relevant physics ☐ Scientific approach ☐ Validity of conclusions ☐ Accurate answers
Presentation ±1	Presentation ±1 ☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression	Presentation ±1
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 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 Novelty of the report Contribution to the discussion		This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades — please do not bend
4		

Final Grade: Reporter

Final Grade: Opponent

No.			4 7					45) §	7	8	8 6	3		
1800 M	Part Part	Part .	要感	1	A STATE OF THE PARTY OF THE PAR	Ø	# #	8		1	. #	康	200		400
الله	CO	# 1	I	Ž.				E.		Section 1	S	H			7 Sagar
40000	ACTO ACTOR	62 E	200	209		4	STOP IS	離	STATE OF	Character 1	200	9	##	Control of the last of the las	3

Rep.: BROW

Correct and relevant physics

E Scientific approach

☐ Accurate answers

Presentation ±1

☐ Overall impression

Reporter ±1

■ Structure

☐ Validity of conclusions

Clear and understandable

Quality of experimental

Explanation of formulae and

☐ Appropriate models, conformity

➡ Slides, on-site experiments, audio,

☐ Contribution to the discussion

Physics ±3

Scoring Guidelii	Fight (Round no.): Roor 105 Juror: Kim Feiman	n: Stage: Problem no.:6
abbucariou or abbiobliate mathematics & to	ts, theories and principles of the problem • an eleasonable experimental technique to gather and experimental findings to draw suitable conclusionable manner	record data for domanstrate the above is
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 data • the
such personal opinions were informative, no principles and appropriate mathematics use		n evidence (not just superficial observations) e eviewer's understanding of concepts, theories,
Consider the following suggestions to Select each partial grade from each sec	consists of a partial grade for <i>physics</i> , <i>present</i> each <i>start with 5 points</i> . add to or <i>deduct</i> from the initial <i>5 points</i> . ction and <i>write it</i> in the corresponding box. so questions were posed or not finding shortcomes.	
Rep.: <u>Basi</u> 5	Opp.: Soveria 5	Rev.: Belans 5
Correct and relevant physics Correct and rele	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
Clear and understandable Appropriate manner Overall impression	Presentation ±1 ☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression	Presentation ±1
Quality of experimental technique(s) Structure Explanation of formulae and symbols Appropriate models, conformity of dimensions	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	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
Slides, on-site experiments, audio, video, as appropriate References, proper citations of ideas and input of others Novelty of the report Contribution to the discussion	☐ Contribution to the discussion	by the reporter or the opponent This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades - please do not bend

Final Grade: Reporter

☐ Novelty of the report

Final Grade: Opponent

(12-Lanterns KEJECTE		Noodpecker Toy
(15-Frustrating Golf Ball I	Fight (Round no.): Poon	n: D Stage: 2 Problem no.: 6
Scoring Guidelii	1es Juror: Kent Hagan	Signature:
	30101. <u>1 34 11 1 3961 1</u>	Signature:
A report should include:		
application of appropriate mathematics • re	ts, theories and principles of the problem • an easonable experimental technique to gather and it	ecord data for demonstrate the phenomena if
appropriate) • linking of theoretical and e complex ideas in an effective and understan	xperimental findings to draw suitable conclusion	ns • an attempt to communicate difficult or
An opposition should show that:		
abbigoings marinemaries hiezented a tue of	nderstanding of the presented concepts, theories opponent critiqued the experimental technique use	and principles • the opponent understood the
opponent appreciated and nightighted the St	rengths and weaknesses of the report	- The same same same same same same same sam
A review should show that: • the reviewer succeeded in giving an object	tive summary of the performances the reporter	
important aspects (especially the controvers	iiai ones) • the reviewer's <i>personal oninion</i> was in	evidence (not just superficial observations)
principles and appropriate mathematics use	n-trivial and demonstrated, where possible, the red by the reporter and the opponent	eviewer's understanding of concepts, theories,
 The grade for each of the three teams 	consists of a partial grade for <i>physics, present</i>	ration and for their enerific rela
The reporter, opponent and reviewer	each start with 5 points.	and for their specific rule.
 Select each partial grade from each sec 	add to or deduct from the initial 5 points. ction 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.: Brazil	Opp.: Slovenia	Rev.: Belans
Joan Gabriel) 5	(Gasper Romin) 5	(Arton Khralynk) 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
LI Accurate answers	☐ Accurate answers	☐ Accurate answers
Presentation ±1	Presentation ±1	Presentation ±1
Clear and understandable	Clear and understandable	☐ Clear and understandable
☐ Appropriate manner ☐ Overall impression	☐ Appropriate manner	Appropriate manner
	Overall impression	Overall impression
Reporter ±1	Opponent ±1	Reviewer ±1
Quality of experimental 7 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
Novelty of the report		This sheet wan be to fight assistant, so we can scan it and archive your partial grades — please
Contribution to the discussion		do not bend
Final Cond. B		
Final Grade: Reporter	Final Grade: Opponent Revised a	Final Grade: Reviewer free location of the loc

A STATE OF THE PARTY OF THE PAR		8			- CONTROL OF THE PARTY OF THE P		Ø		1	Æ	- 48				
٥	CO		n	g	G	U		a	2			1	e	5	

Fight (Round no.):	Room: D	Stage; _	2_ Pro	oblem no.:	6
Juror: X. VATERI	<u>- 入仏</u> Signature	e:	. /(/	ulau	2

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

An opposition should show that:

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

A review should show that:

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

Select each partial grade from each secDon't punish missing 'answers' when n	ction and <i>write it</i> in the corresponding box. o questions were posed or not finding shortco	pmings if the area was a second of
Rep.: 5	Opp.:	Rev.:
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)	Opponent ±1 Response to the reporter's solution	Reviewer ±1 Provides a thorough review of
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 Slides, on-site experiments, audio,	the report Relevance of the questions Contribution to the discussion	Relevance of questions to both the reporter and the opponent Draws attention to points missed by the reporter or the opponent
video, as appropriate References, proper citations of ideas and input of others Novelty of the report Contribution to the discussion	V The state of the discussion	This sheet will be collected by the fight assistant, so we can scar it and archive your partial grades — blease do not bend
Final Grade: Reporter	Final Grade: Opponent Revised	Final Grade: Reviewer after IOC feedback and approved by EC on 2011-11-03

Scoring Guidelines	Fight (Round no.): Room: Stage: 2 Problem no.: 6 Juror: D. WHARAM Signature: A. Cher
A report should include: • a presentation of the appropriate concepts, theories	s 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

such personal opinions were <i>informative</i> , no principles and appropriate mathematics user	ilal ones) • the reviewer's personal opinion was in n-trivial and demonstrated, where possible, the red by the reporter and the opponent	n evidence (<i>not</i> just <i>superficial observations</i>) • eviewer's <i>understanding</i> of <i>concepts</i> , <i>theories</i> ,
 The grade for each of the three teams The reporter, opponent and reviewer Consider the following suggestions to Select each partial grade from each sec 	consists of a partial grade for physics, present	
Rep.: BRAZIL 5	Opp.: SLOVENIA 5	Rev.: BELARUS 5
Physics ±3 +1	Physics ±3	Physics ±3
Correct and relevant physics	Correct and relevant physics Scientific approach Validity of conclusions	Correct and relevant physics Scientific approach Validity of conclusions
Accurate answers 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 sneet will be collected by the
Novelty of the report	,	This sheet this are can scan it and fight assistant, so we can scan it and archive your partial grades — please
Contribution to the discussion		do not bend
Final Grade: Reporter	Final Grade: Opponent Revised	Final Grade: Reviewer 8 after IOC feedback and approved by EC on 2011-11-03

Sc

	Fight (Round no.):	_ Room: Stage: Problem no.:
Scoring Guidelin		Signature: They proceed
A report should include:		
application of appropriate mathematics * (easonable experimental technique to <i>gath</i> experimental findings to draw suitable co	• an explanation of the observed phenomena • an er and record data (or demonstrate the phenomena if onclusions • 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, the property of the property of the experimental technical technic	neories and principles • the opponent understood the que used and questioned the validity of the data • the
A review should show that:		
I wisher the transfer aspects (especially the controvers	sial ones) * the reviewer's personal opinio . In-trivial and demonstrated, where possible	prorter and opponent • the reviewer appreciated the n was in evidence (not just superficial observations) • e, the reviewer's understanding of concepts, theories,
 Consider the following suggestions to a Select each partial grade from each sec 	each <i>start with 5 points</i> . <i>add</i> to or <i>deduct</i> from the initial <i>5 poin</i> ction and <i>write it</i> in the corresponding	presentation and for their specific role. Its. box. shortcomings if there were none to find.
Rep.: 3rayl 5	Opp.: Stevenia	Rev.: Belague 5
Physics ±3	Physics ±3	Physics ±3
Correct and relevant physics	☐ Correct and relevant physics	Correct and relevant physics
Scientific approach	☐ Scientific approach	☐ Scientific approach
□ Validity of conclusions□ Accurate answers	☐ Validity of conclusions ☐ Accurate answers	☐ Validity of conclusions☐ Accurate answers
Presentation ±1	Presentation ±1	Presentation ±1
Clear and understandable	☐ Clear and understandable	☐ Clear and understandable
Appropriate manner	Appropriate manner	☐ Appropriate manner
Overall impression	Overall impression	Overall impression
Reporter ±1	Opponent ±1	Reviewer ±1
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion
Structure	Shows the strong and weak p	oints
Light Explanation of formulae and symbols	☐ Finds shortcomings or errors	topics presented or discussed
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 sneet will be collected by the
Novelty of the report		Fight assistant, so we can scan it and archive your partial grades — please
Contribution to the discussion		do not bend
Final Grade: Reporter 5	Final Grade: Opponent	Final Grade: Reviewer

Scoring Guidelines

Fight (Round no.):	_ Room: Stage: Problem no.:	
Juror: YE YEO	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.

 Don't punish missing 'answers' when n 	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	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 ☐ 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 ☐ 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 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 □ Novelty of the report 		This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades — please
Contribution to the discussion		do not bend

Final Grade: Opponent

Scoring Guidelines	Fight (Round no.): Room: Stage: Problem no.: Juror: Signature: Signature:

• 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 Empires

 Select each partial grade from each sec 	ction and write it in the corresponding box. o questions were posed or not finding shortco	Omings if there were none to find
Rep.: Belanu 5	Opp.: Brazil 5	Rev.: Slovenia 5
Physics ±3 ☐ Correct and relevant physics ☐ Scientific approach ☐ Validity of conclusions ☐ Accurate answers	Physics ±3 ☐ Correct and relevant physics ☐ Scientific approach ☐ Validity of conclusions ☐ Accurate answers	Physics ±3 ☐ Correct and relevant physics ☐ Scientific approach ☐ Validity of conclusions ☐ Accurate answers
Presentation ±1	Presentation ±1 ☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression	Presentation ±1 ☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression
Reporter ±1	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 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 right assistant, so we can scan it and
□ Novelty of the report□ Contribution to the discussion		archive your partial grades - 0.eese do not bend
5: Louis and G		90 1101 2-11

Final Grade: Reporter

Final Grade: Opponent

Cutting	the	a	\ '}~
---------	-----	---	-------

S	CO	r	'n	Q	G	U		d	e	Manual Company		'n	e	S
				0	-	- B	200	All Sales	CORE.	W	œ	8 8	Sum	Series.

Fight (Round no.): Room:	D Stage:	Problem no.: 2
Juror: Kent Hagan	Signature: hul	

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

An opposition should show that:

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

A review should show that:

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

 The reporter, opponent and reviewer expenses 	consists of a partial grade for <i>physics, presen</i> t each start with 5 points.	tation and for their specific role.
• Consider the following suggestions to	add to or deduct from the initial 5 points.	
 Select each partial grade from each sec Don't punish missing 'answers' when n 	ction and write it in the corresponding box. o questions were posed or not finding shortco	t test
·	o questions were posed or not finding shortco	omings if there were none to find.
Rep.: Belans 5	Opp.: Brazil 5	Rev.: Slovenia 5
Physics ±3 +2	Physics ±3	Physics ±3
Correct and relevant physics	☐ Correct and relevant physics	Correct and relevant physics
Scientific approach	Scientific approach	Scientific approach
☑ Validity of conclusions	Validity of conclusions	Validity of conclusions
☐ Accurate answers	☐ Accurate answers	☐ Accurate answers
Presentation ±1	Presentation ±1	Presentation ±1
Clear and understandable	Clear and understandable	☐ Clear and understandable
Appropriate manner Talking	Appropriate manner	☐ Appropriate manner
Overall impression Tove each	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	N ~
Explanation of formulae and symbols	or the report	Expresses own opinion about topics presented or discussed
Appropriate models, conformity	Finds shortcomings or errors in the report	Relevance of questions to both the reporter and the opponent
ordimensions	Relevance of the questions	Draws attention to points missed by the reporter or the opponent
Slides, on-site experiments, audio, video, as appropriate	Contribution to the discussion	by the reporter or the opponent
References, proper citations of ideas and input of others		This sheet will be collected by the
☐ Novelty of the report		fight assistant, so we can scan it and archive your partial grades — please
☐ Contribution to the discussion		do not bend
		formation and the second
-	<u> </u>	

Final Grade: Reporter

Final Grade: Opponent

		Fight (Round no.): Room:	S1	tagę	:		Prob	blen	n r
Scoring	Guidelines	Juror: X Valedaus	Signature:			Ū	U		1

Α	report	should	include:

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

An opposition should show that:

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

A review should show that:

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

Select each partial grade from each secDon't punish missing 'answers' when n	ction and write it in the corresponding box. o questions were posed or not finding shortco	omings if there were none to find.
Rep.:	Opp.: 5	Rev.: 5
Physics ±3 Correct and relevant physics Scientific approach Validity of conclusions Accurate answers Presentation ±1 Clear and understandable Appropriate manner	Physics ±3 Correct and relevant physics? Scientific approach Validity of conclusions Accurate answers Presentation ±1 Clear and understandable	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
Quality of experimental technique(s) Structure Explanation of formulae and symbols Appropriate models, conformity of dimensions Slides, on-site experiments, audio, video, as appropriate	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	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
References, proper citations of ideas and input of others Novelty of the report Contribution to the discussion		This sheet will be collected by the right assistant, so we can scan cland archive your partial grades - please do not bend

Final Grade: Opponent

Scoring Guideli	Fight (Round no.): 1 Roor Nes Juror: D. WHARAM	n: Stage: Problem no.: Z
application of appropriate mathematics at	ots, theories and principles of the problem and reasonable experimental technique to gather and experimental findings to draw suitable conclusionable manner	record data for domainstrate the minimum to
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	and <i>principles</i> • the opponent understood the ed and questioned the <i>validity</i> of the <i>data</i> • the
"" appears (capecially 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	a auddanaa lankiisis
 Consider the following suggestions to Select each partial grade from each se 	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.: BELARUS 5	Opp.: BRAZIL 5	Rev.: SLOVENIA 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	Opponent ±1 Response to the reporter's	Reviewer ±1
technique(s) Structure Explanation of formulae and symbols Appropriate models, conformity	solution Shows the strong and weak points of the report Finds shortcomings or errors in the report	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
of dimensions	Relevance of the questions	N D

Slides, on-site experiments, audio, video, as appropriate References, proper citations of ideas and input of others This sheet will be collected by the Novelty of the report

Relevance of the questions

○ Contribution to the discussion

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

Draws attention to points missed by the reporter or the opponent

do not bend

Final Grade: Reporter

☐ Contribution to the discussion

Final Grade: Opponent

A 100			4	>				68	9 8	?	60	a			
D	CC	ľ			Q	G	U		d	0			n	e	S
					Carrier Street										

 \square

Capring Coristal		Fight	(Round no.):	1	_ Room	n:D	_ Stage:		Problem	no.:		
Scoring Guideli	nes		Jupit						The	tix		
A report should include: • a presentation of the appropriate concepapplication of appropriate mathematics • appropriate) • linking of theoretical and complex ideas in an effective and understant	experimenti	experime al findini	nrai tochniau	a ta math	a= and =		. /					
An opposition should show that • the opponent challenged the reporter's a appropriate mathematics presented • the copponent appreciated and highlighted the s	nderstandir Opponent <i>cri</i>	uauea n	10 experiment	altochai	eories a	and <i>princip</i> d and ques	<i>les</i> • the tioned the	opponen e <i>validity</i>	t underst of the <i>da</i>	ood 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	ctive summ sial ones) •	ary of th	e performancewer's person	es the <i>re</i>								
 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 re 	each start add to or o ction and s	with 5 p deduct f write it is	points. rom the initi n the corress	al 5 poin	ts.							
Rep.:5	Орр	U GOOGLOGICA CONTRACTOR CONTRACTO				Rev.:				5		
Physics ±3 Correct and relevant physics Scientific approach Validity of conclusions Accurate answers Presentation ±1 Clear and understandable	Sci	rrect an entific a lidity of curate a ntatio	nd relevant approach conclusion inswers on ±1 understand	S	1	Scie Vali Acc	rect and entific apidity of durate and urate an	pproach conclusi nswers n ±1	ons	cs O		
☐ Appropriate manner ☐ Overall impression	☐ App	oropriat	te manner pression	abie		□ Арр		ndersta e manne ression				
Reporter ±1 Quality of experimental technique(s)	Oppo Res solu		t1 to the repor	ter's		Review	/ides a t	•	h review	1 1 of		
☐ Structure ☐ Explanation of formulae and symbols	Find	ne repo Is short	strong and ort comings or			Expr topi	esses o cs prese vance o	wn opin inted or f guesti	ion abo discuss	ed ooth the		
 Appropriate models, conformity of dimensions Slides, on-site experiments, audio, video, as appropriate 	☐ Rele	— Merevance of the questions					reporter and the opponent Draws attention to points missed by the reporter or the opponent					
References, proper citations of ideas and input of others					Andreas and the second		-1	e shiwel	Hected (b)			
Novelty of the report Contribution to the discussion						arc	hive your	partial 8	rades - f	: छ २ ५ ५		
Final Grade: Reporter	Final G	rade: O _l	pponent	6 R	evised af	Final Gr ter IOC feed	ade: Re	viewer pproved b	y EC on 20	11-11-03		

No.			8		40000		68			ø	. 6	,		
D	CO	r	M	a	G		Bulling	d				M	P	<
	din din			Carrie	CONTRACT OF THE PERSON NAMED IN	Service Control	89	STATE OF THE PARTY	Signal .	22	2	# S	Sept.	

Fight (Round no.):	I Room: D Stage	: Problem no.:
Juror: YE YEO	Signature:	C/J/

• 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 Don't punish missing 'answers' when n 	tion and write it in the corresponding box. 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	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
StructureExplanation 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	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 sneet will be collected by the fight assistant, so we can scan it and
Novelty of the report		fight assistant, so the archive your partial grades — please
Contribution to the discussion		do not bend
A		photos de la constante de la c

Final Grade: Opponent



