REPORTER

Start from 1 and add/subtract

$1 + \boxed{4} + \boxed{2.5} - \boxed{0.5} = \boxed{7}$

REPORT

	phenomenon explanation	theory/model	relevant experiments	comparison between theory and experiment	own contribution	task fulfilment	science communication
0	almost no	almost no	too few	no/ almost no	others' data, incorrectly cited	misunderstood	unclear, chaotic
1	some	~~some~~	some	~~some~~	review of sources, cited	partly	partly clear
2	fair	fair	fair	not well fitting	some own input	average	average
3	good	good	well performed, sufficient number	deviations qualitatively analysed	+ some interesting results	some aspects above average	some parts well done
4							
5	detailed demonstrative	quite detailed, correct	+ results explained errors analysed	+ theory limits explained, conclusive	considerable experimental or theoretical	interesting solution	overall clear, demonstrative
6							
7	deep and comprehensible, shows physical insight	detailed, complex, completely testable	+ reproducible, convincing analysis	well fitting, deviations analysed, conclusive	considerable experimental and theoretical	greater extent than expected	+ complex concepts well communicated

DISCUSSION WITH OPPONENT

	relevant arguments/responses	reporter's conduct at the discussion
0	too few	poor
1	some	some aspects fine
	many	good
2	+ data/theory convincingly supported	some aspects efficient
3	proved deep understanding	overall efficient

ANSWERS TO JURY, OPPONENT, and REVIEWER'S QUESTIONS

0	concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES:

OPPONENT

Start from 1 and add/subtract

$1 + \boxed{1.5} + \boxed{2.5} + \boxed{2} - \boxed{0} = \boxed{7}$

QUESTIONS ASKED

0	too few, mostly irrelevant
1	relevant, aimed at resolving unclear points in the report
2	+ short, apt and clear, well prioritized, all time used

OPPOSITION (SPEECH)

	understanding of presentation	relevant topics addressed	own opinions presented	prioritisation	time management
0	almost nothing	no or irrelevant	too few	no	poor
1	some main points	few	some	some	reasonable
2	main points	some	some correct	reasonable	fair
3	all relevant points	many	many correct	fair	efficient
4	practically all points	practically all	+ improvement suggestions	very good	+ all time used

DISCUSSION WITH REPORTER

	relevant scientific topics	own opinions presented	opponent's conduct of the discussion	prioritisation
0	almost no	too few	poor	no
1	few	some	some aspects fine	some
2	some	some correct	good	reasonable
3	good	many correct	some aspects efficient	fair
4	new crucial point(s)	+ improvement suggestions	overall efficient	very good

ANSWERS TO JURY and REVIEWER'S QUESTIONS

0	concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES:

REVIEWER

Start from 1 and add/subtract

$1 + \boxed{0.5} + \boxed{1} + \boxed{1.5} + \boxed{0.5} \pm \boxed{-0.5} - \boxed{} = \boxed{4}$

QUESTIONS ASKED

0	too few, mostly irrelevant
1	relevant, meant to clarify unclear points
	+ suitably allotted to Rep & Opp, most time used
2	+ short, apt and clear, well prioritized, time managed efficiently

REVIEW OF REPORT

	report evaluation & understanding	pros & cons	prioritisation
0	poor/wrong	irrelevant	no
1	partial	partially relevant	some
2	good	mostly adequate	reasonable
3	detailed, complex	fully adequate	good

REVIEW OF OPPOSITION

	speech evaluation	pros & cons	prioritisation
0	poor/wrong	irrelevant	no
1	too short/long	partially relevant	some
2	informative, apt	mostly adequate	reasonable
3	condensed & accurate	fully adequate	good

DISCUSSION ANALYSIS

	discussion evaluation	correct own opinions
0	almost no	too few
	too short/long	some
1	relevant parts	many
2	accurate, conclusive	fully adequate

MISSED POINTS POINTED OUT

-1	irrelevant
0	none
1	relevant, constructive

ANSWERS TO JURY QUESTIONS

0	concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES:

REPORTER

Start from 1 and add/subtract

$1 + 3,5 + 1,5 - \cancel{0} = 6$

REPORT

	phenomenon explanation	theory/model	relevant experiments	comparison between theory and experiment	own contribution	task fulfilment	science communication
0	almost no	almost no	too few	no/ almost no	others' data, incorrectly cited	misunderstood	unclear, chaotic
1	some	some	some	some	review of sources, cited	partly	partly clear
2	fair	fair	fair	not well fitting	some own input	average	average
3	good	good	well performed, sufficient number	deviations qualitatively analysed	+ some interesting results	some aspects above average	some parts well done
4							
5	detailed demonstrative	quite detailed, correct	+ results explained errors analysed	+ theory limits explained, conclusive	considerable experimental or theoretical	interesting solution	overall clear, demonstrative
6	deep and comprehensible, shows physical insight	detailed, complex, completely testable	+ reproducible, convincing analysis	well fitting, deviations analysed, conclusive	considerable experimental and theoretical	greater extent than expected	+ complex concepts well communicated
7							

DISCUSSION WITH OPPONENT

	relevant arguments/responses	reporter's conduct at the discussion
0	too few	poor
1	some	some aspects fine
	many	good
2	+ data/theory convincingly supported	some aspects efficient
3	proved deep understanding	overall efficient

ANSWERS TO JURY, OPPONENT, and REVIEWER'S QUESTIONS

0	concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES:

OPPONENT

Start from 1 and add/subtract

$1 + 2 + 2 + 2 - 0 = 7$

QUESTIONS ASKED

0	too few, mostly irrelevant
1	relevant, aimed at resolving unclear points in the report
2	+ short, apt and clear, well prioritized, all time used

OPPOSITION (SPEECH)

	understanding of presentation	relevant topics addressed	own opinions presented	prioritisation	time management
0	almost nothing	no or irrelevant	too few	no	poor
1	some main points	few	some	some	reasonable
2	main points	some	some correct	reasonable	fair
3	all relevant points	many	many correct	fair	efficient
4	practically all points	practically all	+ improvement suggestions	very good	+ all time used

DISCUSSION WITH REPORTER

	relevant scientific topics	own opinions presented	opponent's conduct of the discussion	prioritisation
0	almost no	too few	poor	no
1	few	some	some aspects fine	some
2	some	some correct	good	reasonable
3	good	many correct	some aspects efficient	fair
4	new crucial point(s)	+ improvement suggestions	overall efficient	very good

ANSWERS TO JURY and REVIEWER'S QUESTIONS

0	concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES:

REVIEWER

Start from 1 and add/subtract

$1 + 3/6 + 1 + 1 + 1,5 \pm -0,5 - 0 = 5$

No one slide?

QUESTIONS ASKED

0	too few, mostly irrelevant
	relevant, meant to clarify unclear points
1	+ suitably allotted to Rep & Opp, most time used
2	+ short, apt and clear, well prioritized, time managed efficiently

REVIEW OF REPORT

	report evaluation & understanding	pros & cons	prioritisation
0	poor/wrong	irrelevant	no
1	partial	partially relevant	some
2	good	mostly adequate	reasonable
3	detailed, complex	fully adequate	good

REVIEW OF OPPOSITION

	speech evaluation	pros & cons	prioritisation
0	poor/wrong	irrelevant	no
1	too short/long	partially relevant	some
2	informative, apt	mostly adequate	reasonable
3	condensed & accurate	fully adequate	good

DISCUSSION ANALYSIS

	discussion evaluation	correct own opinions
0	almost no	too few
	too short/long	some
1	relevant parts	many
2	accurate, conclusive	fully adequate

MISSED POINTS POINTED OUT

-1	irrelevant
0	none
1	relevant, constructive

ANSWERS TO JURY QUESTIONS

0	concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES:

REPORTER

Start from 1 and add/subtract

$1 + 3 + 1.5 - 0.5 = 5$

REPORT 2.5 - 4

	phenomenon explanation	theory/model	relevant experiments	comparison between theory and experiment	own contribution	task fulfilment	science communication
0	almost no	almost no	too few	no/ almost no	others' data, incorrectly cited	misunderstood	unclear, chaotic
1	some	almost no	too few	no/ almost no	review of sources, cited	partly	partly clear
2	some	(some)	(some)	(not well fitting)	some own input	average	average
3	fair	fair	well performed, sufficient number	deviations qualitatively analysed	some own input	average	some parts well done
4	(good)	good	well performed, sufficient number	deviations qualitatively analysed	+ some interesting results	(some aspects above average)	some parts well done
5	detailed demonstrative	quite detailed, correct	+ results explained errors analysed	+ theory limits explained, conclusive	considerable experimental or theoretical	interesting solution	overall clear, demonstrative
6	deep and comprehensible, shows physical insight	detailed, complex, completely testable	+ reproducible, convincing analysis	well fitting, deviations analysed, conclusive	considerable experimental and theoretical	greater extent than expected	+ complex concepts well communicated
7	deep and comprehensible, shows physical insight	detailed, complex, completely testable	+ reproducible, convincing analysis	well fitting, deviations analysed, conclusive			

DISCUSSION WITH OPPONENT 1 - 1.5

	relevant arguments/responses	reporter's conduct at the discussion
0	too few	poor
1	(some)	some aspects fine
	(many)	good
2	+ data/theory convincingly supported	(some aspects efficient)
3	proved deep understanding	overall efficient

ANSWERS TO JURY, 0 - 0.5 OPPONENT, and REVIEWER'S QUESTIONS

0	concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES: k value, chaotic patterns, number of undertone predictions

OPPONENT

Start from 1 and add/subtract

$1 + 1.5 + 1 + 2 - 0 = 6$

QUESTIONS ASKED 1.5 - 2

0	too few, mostly irrelevant
1	relevant, aimed at resolving unclear points in the report
2	+ short, apt and clear, well prioritized, all time used

OPPOSITION (SPEECH) 1 - 2

	understanding of presentation	relevant topics addressed	own opinions presented	prioritisation	time management
0	almost nothing	no or irrelevant	too few	no	poor
1	(some main points)	(few)	(some)	some	(reasonable)
2	main points	some	some correct	(reasonable)	fair
3	all relevant points	many	many correct	fair	efficient
4	practically all points	practically all	+ improvement suggestions	very good	+ all time used

DISCUSSION WITH REPORTER 1 - 2

	relevant scientific topics	own opinions presented	opponent's conduct of the discussion	prioritisation
0	almost no	too few	poor	no
1	few	some	some aspects fine	some
2	(some)	(some correct)	(good)	(reasonable)
3	good	many correct	(some aspects efficient)	fair
4	new crucial point(s)	+ improvement suggestions	overall efficient	very good

ANSWERS TO JURY and REVIEWER'S QUESTIONS   0.5

0	concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES: th size + thi... What predictions & should be done   F(s) non linear, Amplitude of paper

REVIEWER

Start from 1 and add/subtract

$1 + 1 + 0.5 + 0.5 + 1 \pm 0 - 0 = 4$

QUESTIONS ASKED 1 - 1.5

0	too few, mostly irrelevant
1	relevant, meant to clarify unclear points + suitably allotted to Rep & Opp, most time used
2	+ short, apt and clear, well prioritized, time managed efficiently

REVIEW OF REPORT 0.5 - 1

	report evaluation & understanding	pros & cons	prioritisation
0	poor/wrong	(irrelevant)	no
1	(partial)	partially relevant	(some)
2	good	mostly adequate	reasonable
3	detailed, complex	fully adequate	good

REVIEW OF OPPOSITION 0.5 - 1

	speech evaluation	pros & cons	prioritisation
0	poor/wrong	irrelevant	no
1	(too short/long)	(partially relevant)	(some)
2	informative, apt	mostly adequate	(reasonable)
3	condensed & accurate	fully adequate	good

DISCUSSION ANALYSIS 1

	discussion evaluation	correct own opinions
0	almost no	too few
1	too short/long	some
	relevant parts	many
2	accurate, conclusive	fully adequate

MISSED POINTS POINTED OUT 0

-1	irrelevant
0	none
1	relevant, constructive

ANSWERS TO JURY QUESTIONS

0	concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES:

SCORESHEET
Stage: 1 Fight **1 A**, Problem:

Germany Rosenheim: **GYPT:**   **Wien:**

REPORTER

Start from 1 and add/subtract

$1 + 4 + 1 - 0 = 6$

REPORT

	phenomenon explanation	theory/model	relevant experiments	comparison between theory and experiment	own contribution	task fulfilment	science communication
0					others' data, incorrectly cited	misunderstood	unclear, chaotic
1	almost no	almost no	too few	no/ almost no	review of sources, cited	partly	partly clear
2	some	some	some	some	some own input	average	average
3	fair ✗	fair ✗	fair	not well fitting		some aspects above average	some parts
4	good	good	well performed, ✗ sufficient number	deviations qualitatively analysed	+ some interesting results		well done ✗
5	detailed demonstrative	quite detailed, correct	+ results explained errors analysed	+ theory limits ✗ explained, conclusive	considerable experimental or theoretical	interesting ✗ solution	overall clear, demonstrative
6	deep and comprehensible, shows physical insight	detailed, complex, completely testable	+ reproducible, convincing analysis	well fitting, deviations analysed, conclusive	considerable experimental and theoretical	greater extent than expected	+ complex concepts well communicated
7							

DISCUSSION WITH OPPONENT

	relevant arguments/responses	reporter's conduct at the discussion
0	too few	poor
	some ✗	some aspects fine
1	many	good ✗
2	+ data/theory convincingly supported	some aspects efficient
3	proved deep understanding	overall efficient

ANSWERS TO JURY, OPPONENT, and REVIEWER'S QUESTIONS

0 ✗	concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES:

OPPONENT

Start from 1 and add/subtract

$1 + 1 + 3 + 2 - 0 = 7$

QUESTIONS ASKED

0	too few, mostly irrelevant
1 ✗	relevant, aimed at resolving unclear points in the report
2	+ short, apt and clear, well prioritized, all time used

OPPOSITION (SPEECH)

	understanding of presentation	relevant topics addressed	own opinions presented	prioritisation	time management
0	almost nothing	no or irrelevant	too few	no	poor
1	some main points	few	some	some	reasonable
2	main points ✗	some	some correct	reasonable ✗	fair
3	all relevant points	many ✗	many correct ✗	fair	efficient ✗
4	practically all points	practically all	+ improvement suggestions	very good	+ all time used

DISCUSSION WITH REPORTER

	relevant scientific topics	own opinions presented	opponent's conduct of the discussion	prioritisation
0	almost no	too few	poor	no
1	few	some	some aspects fine	some
2	some	some correct ✗	good ✗	reasonable ✗
3	good ✗	many correct	some aspects efficient	fair
4	new crucial point(s)	+ improvement suggestions	overall efficient	very good

ANSWERS TO JURY and REVIEWER'S QUESTIONS

0 ✗	concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES:

REVIEWER

Start from 1 and add/subtract

$1 + 0 + 1 + 1 + 1 \pm 0 - 0 = 5$

QUESTIONS ASKED

0	too few, mostly irrelevant
✗	relevant, meant to clarify unclear points
1	+ suitably allotted to Rep & Opp, most time used
2	+ short, apt and clear, well prioritized, time managed efficiently

REVIEW OF REPORT

	report evaluation & understanding	pros & cons	prioritisation
0	poor/wrong	irrelevant	no
1	partial ✗	partially relevant	some
2	good	mostly adequate	reasonable
3	detailed, complex	fully adequate	good

REVIEW OF OPPOSITION

	speech evaluation	pros & cons	prioritisation
0	poor/wrong ✗	irrelevant	no
1	too short/long	partially relevant	some
2	informative, apt	mostly adequate	reasonable
3	condensed & accurate	fully adequate	good

DISCUSSION ANALYSIS

	discussion evaluation	correct own opinions
0	almost no	too few
	too short/long ✗	some
1	relevant parts	many
2	accurate, conclusive	fully adequate

MISSED POINTS POINTED OUT

-1	irrelevant
0 ✗	none
1	relevant, constructive

ANSWERS TO JURY QUESTIONS

0 ✗	concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES:

Germany Rosenheim: **GYPT:**   **Wien:**

REPORTER

Start from 1 and add/subtract

$$1 + 4 + 1.5 - \cancel{0} = 7$$

REPORT

	phenomenon explanation	theory/model	relevant experiments	comparison between theory and experiment	own contribution	task fulfilment	science communication
0	almost no	almost no	too few	no/ almost no	others' data, incorrectly cited	misunderstood	unclear, chaotic
1	some	some	some	some	review of sources, cited	partly	partly clear
2	fair ✗	fair ✗	fair ✗	not well fitting	some own input ✗	average	average
3	good	good	well performed, sufficient number	deviations qualitatively analysed	+ some interesting results	some aspects above average ✗	some parts well done ✗
4 ✗	detailed demonstrative	quite detailed, correct	+ results explained errors analysed	+ theory limits ✗ explained, conclusive	considerable experimental or theoretical	interesting solution	overall clear, demonstrative
5							
6	deep and comprehensible, shows physical insight	detailed, complex, completely testable	+ reproducible, convincing analysis	well fitting, deviations analysed, conclusive	considerable experimental and theoretical	greater extent than expected	+ complex concepts well communicated
7							

DISCUSSION WITH OPPONENT

	relevant arguments/responses	reporter's conduct at the discussion
0	too few	poor
1	some	some aspects fine
	many	good ✗
2	+ data/theory convincingly supported	some aspects efficient
3	proved deep understanding	overall efficient

ANSWERS TO JURY, OPPONENT, and REVIEWER'S QUESTIONS

0	concise and correct or no questions asked ✗
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES: weak contact explained, paper parameters = ? /humidity

OPPONENT

Start from 1 and add/subtract

$$1 + 1.5 + 2.5 + 2... - \square = 7$$

QUESTIONS ASKED

0	too few, mostly irrelevant
1	relevant, aimed at resolving unclear points in the report
2	+ short, apt and clear, well prioritized, all time used

OPPOSITION (SPEECH)

	understanding of presentation	relevant topics addressed	own opinions presented	prioritisation	time management
0	almost nothing	no or irrelevant	too few	no	poor
1	some main points	few	some	some	reasonable
2	main points ✗	some	some correct	reasonable ✗	fair
3	all relevant points	many ✗	many correct	fair	efficient ✗
4	practically all points	practically all	+ improvement suggestions	very good	+ all time used

DISCUSSION WITH REPORTER

	relevant scientific topics	own opinions presented	opponent's conduct of the discussion	prioritisation
0	almost no	too few	poor	no
1	few	some	some aspects fine	some
2 ✗	some	some correct	good ✗	reasonable
3	good	many correct ✗	some aspects efficient	fair ✗
4	new crucial point(s)	+ improvement suggestions	overall efficient	very good

ANSWERS TO JURY and REVIEWER'S QUESTIONS

0	concise and correct or no questions asked ✗
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES: more points expected

REVIEWER

Start from 1 and add/subtract

$$1 + 2 + 2 + \cancel{0} + 1 \pm \square - \square = 6$$

QUESTIONS ASKED

0	too few, mostly irrelevant
	relevant, meant to clarify unclear points
1	+ suitably allotted to Rep & Opp, most time used
2 ✗	+ short, apt and clear, well prioritized, time managed efficiently

REVIEW OF REPORT

	report evaluation & understanding	pros & cons	prioritisation
0	poor/wrong	irrelevant	no
1	partial	partially relevant	some
2	good ✗	mostly adequate ✗	reasonable ✗
3	detailed, complex	fully adequate	good

REVIEW OF OPPOSITION

	speech evaluation	pros & cons	prioritisation
0	poor/wrong	irrelevant	no
1	too short/long	partially relevant	some
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DISCUSSION ANALYSIS

	discussion evaluation	correct own opinions
0	almost no	too few
	too short/long	some ✗
1	relevant parts	many
2	accurate, conclusive	fully adequate

MISSED POINTS POINTED OUT

-1	irrelevant
0	none ✗
1	relevant, constructive

ANSWERS TO JURY QUESTIONS

0	concise and correct or no questions asked ✗
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES: missed out !   missed

Observer Innsbruck

SCORESHEET

sign _[signature]_   Siess, Josef

Stage: 2 Fight **1 A**, Problem: _14_

GYPT: Wien: BRG APP Innsbruck:

REPORTER

Start from 1 and add/subtract

$1 + 3.5 + 1 - 1 = 5$

REPORT

	phenomenon explanation	theory/model	relevant experiments	comparison between theory and experiment	own contribution	task fulfilment ①	science communication
0	almost no	almost no	too few	no/ almost no	others' data, incorrectly cited	misunderstood	unclear, chaotic
1	some	some	some	some	review of sources, cited	partly	partly clear
2	fair	fair	fair	not well fitting	some own input	average	average
3	good	good	well performed, sufficient number	deviations qualitatively analysed	+ some interesting results	some aspects above average	some parts well done
4							
5	detailed demonstrative	quite detailed, correct	+ results explained errors analysed	+ theory limits explained, conclusive	considerable experimental or theoretical	interesting solution	overall clear, demonstrative
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DISCUSSION WITH OPPONENT

	relevant arguments/responses	reporter's conduct at the discussion
0	too few	poor
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	many	good
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ANSWERS TO JURY, OPPONENT, and REVIEWER'S QUESTIONS

0	concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES: _applied angle theta vs pull up? ①_

Microphone? hard to follow speech!   _energy?_

OPPONENT

Start from 1 and add/subtract

$1 + 1.5 + 2 + 2 - \boxed{} = 7$

QUESTIONS ASKED

0	too few, mostly irrelevant
1	relevant, aimed at resolving unclear points in the report
2	+ short, apt and clear, well prioritized, all time used

OPPOSITION (SPEECH)

	understanding of presentation	relevant topics addressed	own opinions presented	prioritisation	time management
0	almost nothing	no or irrelevant	too few	no	poor
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DISCUSSION WITH REPORTER

	relevant scientific topics	own opinions presented	opponent's conduct of the discussion	prioritisation
0	almost no	too few	poor	no
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3	good	many correct	some aspects efficient	fair
4	new crucial point(s)	+ improvement suggestions	overall efficient	very good

ANSWERS TO JURY and REVIEWER'S QUESTIONS

0	concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES:

REVIEWER

Start from 1 and add/subtract

$1 + 1 + 1.5 + 1.5 + 0.5 \pm \boxed{} - \boxed{} = 6$

QUESTIONS ASKED

0	too few, mostly irrelevant
	relevant, meant to clarify unclear points
1	+ suitably allotted to Rep & Opp, most time used
2	+ short, apt and clear, well prioritized, time managed efficiently

REVIEW OF REPORT

	report evaluation & understanding	pros & cons	prioritisation
0	poor/wrong	irrelevant	no
1	partial	partially relevant	some
2	good	mostly adequate	reasonable
3	detailed, complex	fully adequate	good

REVIEW OF OPPOSITION

	speech evaluation	pros & cons	prioritisation
0	poor/wrong	irrelevant	no
1	too short/long	partially relevant	some
2	informative, apt	mostly adequate	reasonable
3	condensed & accurate	fully adequate	good

DISCUSSION ANALYSIS

	discussion evaluation	correct own opinions
0	almost no	too few
1	too short/long	some
	relevant parts	many
2	accurate, conclusive	fully adequate

MISSED POINTS POINTED OUT

-1	irrelevant
0	none
1	relevant, constructive

ANSWERS TO JURY QUESTIONS

0	concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES:

Observer : Rosenheim

REPORTER

Start from 1 and add/subtract

$1 + \boxed{4} + \boxed{1} - \boxed{0} = \boxed{6}$

REPORT

	phenomenon explanation	theory/model	relevant experiments	comparison between theory and experiment	own contribution	task fulfilment	science communication
0	almost no	almost no	too few	no/ almost no	others' data, incorrectly cited	misunderstood	unclear, chaotic
1	some	some	some	some	review of sources, cited	partly	partly clear
2	fair	fair	fair ✗	not well fitting	some own input	average	average
3	good ✗	good ✗	well performed, sufficient number	deviations ✗ qualitatively analysed	+ some interesting results	some aspects above average ✗	some parts well done ✗
4							
5	detailed demonstrative	quite detailed, correct	+ results explained errors analysed	+ theory limits explained, conclusive	considerable experimental or theoretical	interesting solution	overall clear, demonstrative
6	deep and comprehensible, shows physical insight	detailed, complex, completely testable	+ reproducible, convincing analysis	well fitting, deviations analysed, conclusive	considerable experimental and theoretical	greater extent than expected	+ complex concepts well communicated
7							

DISCUSSION WITH OPPONENT

	relevant arguments/responses	reporter's conduct at the discussion
0	too few	poor
1	some	some aspects fine
	many ✗	good
2	+ data/theory convincingly supported	some aspects efficient
3	proved deep understanding	overall efficient

ANSWERS TO JURY, OPPONENT, and REVIEWER'S QUESTIONS

0	concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES:

OPPONENT

Start from 1 and add/subtract

$1 + \boxed{1} + \boxed{2} + \boxed{2} - \boxed{0} = \boxed{6}$

QUESTIONS ASKED

0	too few, mostly irrelevant
1	relevant, aimed at resolving unclear points in the report ✗
2	+ short, apt and clear, well prioritized, all time used

OPPOSITION (SPEECH)

	understanding of presentation	relevant topics addressed	own opinions presented	prioritisation	time management
0	almost nothing	no or irrelevant	too few	no	poor
1	some main points	few	some	some	reasonable
2	main points ✗	some ✗	some correct ✗	reasonable ✗	fair
3	all relevant points	many	many correct	fair	efficient ✗
4	practically all points	practically all	+ improvement suggestions	very good	+ all time used

DISCUSSION WITH REPORTER

	relevant scientific topics	own opinions presented	opponent's conduct of the discussion	prioritisation
0	almost no	too few	poor	no
1	few	some	some aspects fine	some
2	some ✗	some correct	good ✗	reasonable ✗
3	good	many correct	some aspects efficient	fair
4	new crucial point(s)	+ improvement suggestions	overall efficient	very good

ANSWERS TO JURY and REVIEWER'S QUESTIONS

0	concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES:

REVIEWER

Start from 1 and add/subtract

$1 + \boxed{1} + \boxed{1} + \boxed{1} + \boxed{1} \pm \boxed{0} - \boxed{0} = \boxed{5}$

QUESTIONS ASKED

0	too few, mostly irrelevant
	relevant, meant to clarify unclear points
1	+ suitably allotted to Rep & Opp, most time used ✗
2	+ short, apt and clear, well prioritized, time managed efficiently

REVIEW OF REPORT

	report evaluation & understanding	pros & cons	prioritisation
0	poor/wrong	irrelevant	no
1	partial ✗	partially relevant	some
2	good	mostly adequate	reasonable
3	detailed, complex	fully adequate	good

REVIEW OF OPPOSITION

	speech evaluation	pros & cons	prioritisation
0	poor/wrong	irrelevant	no
1	too short/long ✗	partially relevant	some
2	informative, apt	mostly adequate	reasonable
3	condensed & accurate	fully adequate	good

DISCUSSION ANALYSIS

	discussion evaluation	correct own opinions
0	almost no	too few
	too short/long ✗	some
1	relevant parts	many
2	accurate, conclusive	fully adequate

MISSED POINTS POINTED OUT

-1	irrelevant
0	none
1	relevant, constructive

ANSWERS TO JURY QUESTIONS

0	concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES:

SCORESHEET
Stage: 2 Fight **1 A**, Problem: 14

GYPT: Wien: BRG APP Innsbruck:

REPORTER
Start from 1 and add/subtract

$1 + \boxed{4.0} + \boxed{1.5} - \boxed{0.5} = \boxed{6}$

REPORT 3 – 4.5

	phenomenon explanation	theory/model	relevant experiments	comparison between theory and experiment	own contribution	task fulfilment	science communication
0	almost no	almost no	too few	no/ almost no	others' data, incorrectly cited	misunderstood	unclear, chaotic
1	some	some	some	review of sources, cited	partly	partly clear
2	fair	fair	fair	not well fitting	some own input	average	some parts
3	good	good	well performed, sufficient number	deviations qualitatively analysed	+ some interesting results	some aspects above average	some parts well done
4		quite detailed, correct	+ results explained errors analysed	+ theory limits explained, conclusive	considerable experimental or theoretical	interesting solution	overall clear, demonstrative
5	detailed demonstrative						
6	deep and comprehensible, shows physical insight	detailed, complex, completely testable	+ reproducible, convincing analysis	well fitting, deviations analysed, conclusive	considerable experimental and theoretical	greater extent than expected	+ complex concepts well communicated
7							

DISCUSSION WITH OPPONENT 1.5–2

	relevant arguments/responses	reporter's conduct at the discussion
0	too few	poor
1	some	some aspects fine
2	many	good
	+ data/theory convincingly supported	some aspects efficient
3	proved deep understanding	overall efficient

ANSWERS TO JURY, 0.5 OPPONENT, and REVIEWER'S QUESTIONS

0	concise and correct or no questions asked
	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES: Two slips, comparison, boundaries of observation, angular momentum conservation,

OPPONENT
Start from 1 and add/subtract

$1 + \boxed{1} + \boxed{0.5} + \boxed{1.5} - \boxed{0} = \boxed{4}$

QUESTIONS ASKED 0.5–1

0	too few, mostly irrelevant
1	relevant, aimed at resolving unclear points in the report
2	+ short, apt and clear, well prioritized, all time used

OPPOSITION (SPEECH) 0.5–1

	understanding of presentation	relevant topics addressed	own opinions presented	prioritisation	time management
0	almost nothing	no or irrelevant	too few	no	poor
1	some main points	few	some	some	reasonable
2	main points	some	some correct	reasonable	fair
3	all relevant points	many	many correct	fair	efficient
4	practically all points	practically all	+ improvement suggestions	very good	+ all time used

DISCUSSION WITH REPORTER 1–2

	relevant scientific topics	own opinions presented	opponent's conduct of the discussion	prioritisation
0	almost no	too few	poor	no
1	few	some	some aspects fine	some
2	some	some correct	good	reasonable
3	good	many correct	some aspects efficient	fair
4	new crucial point(s)	+ improvement suggestions	overall efficient	very good

ANSWERS TO JURY and REVIEWER'S QUESTIONS

0	concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES:

REVIEWER
Start from 1 and add/subtract

$1 + \boxed{1.6} + \boxed{1} + \boxed{1} + \boxed{1} \pm \boxed{0} - \boxed{0} = \boxed{5}$

QUESTIONS ASKED 1–1.5

0	too few, mostly irrelevant
1	relevant, meant to clarify unclear points
	+ suitably allotted to Rep & Opp, most time used
2	+ short, apt and clear, well prioritized, time managed efficiently

REVIEW OF REPORT /

	report evaluation & understanding	pros & cons	prioritisation
0	poor/wrong	irrelevant	no
1	partial	partially relevant	some
2	good	mostly adequate	reasonable
3	detailed, complex	fully adequate	good

REVIEW OF OPPOSITION /

	speech evaluation	pros & cons	prioritisation
0	poor/wrong	irrelevant	no
1	too short/long	partially relevant	some
2	informative, apt	mostly adequate	reasonable
3	condensed & accurate	fully adequate	good

DISCUSSION ANALYSIS 0.5–1

	discussion evaluation	correct own opinions
0	almost no	too few
1	too short/long	some
	relevant parts	many
2	accurate, conclusive	fully adequate

MISSED POINTS POINTED OUT

-1	irrelevant
0	none
1	relevant, constructive

ANSWERS TO JURY QUESTIONS

0	concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES:

SCORESHEET

Stage: 2 Fight **1 A**, Problem: **14**

GYPT: Wien: BRG APP Innsbruck:

sign

Lasserus, Max

REPORTER

Start from 1 and add/subtract

1 + 5 + 15 − ☐ = 88

REPORT

	phenomenon explanation	theory/model	relevant experiments	comparison between theory and experiment	own contribution	task fulfilment	science communication
0	almost no	almost no	too few	no/ almost no	others' data, incorrectly cited	misunderstood	unclear, chaotic
1	some	some	some	some	review of sources, cited	partly	partly clear
2	fair	fair	some	not well fitting	some own input	average	average
3	good	good	well performed, sufficient number	deviations qualitatively analysed	+ some interesting results	some aspects above average	some parts well done
4							
5	detailed demonstrative	quite detailed, correct	+ results explained errors analysed	+ theory limits explained, conclusive	considerable experimental or theoretical	interesting solution	overall clear, demonstrative
6	deep and comprehensible, shows physical insight	detailed, complex, completely testable	+ reproducible, convincing analysis	well fitting, deviations analysed, conclusive	considerable experimental and theoretical	greater extent than expected	+ complex concepts well communicated
7							

DISCUSSION WITH OPPONENT

	relevant arguments/responses	reporter's conduct at the discussion
0	too few	poor
	some	some aspects fine
1	many	good
2	+ data/theory convincingly supported	some aspects efficient
3	proved deep understanding	overall efficient

ANSWERS TO JURY, OPPONENT, and REVIEWER'S QUESTIONS

0	concise and correct or no questions asked
	some incorrect, inconclusive or too long
-1	
-2	deeply incorrect or show deep misconceptions

NOTES:

OPPONENT

Start from 1 and add/subtract

1 + 1 + 25 + 1 − ☐ = 5

QUESTIONS ASKED

0	too few, mostly irrelevant
1	relevant, aimed at resolving unclear points in the report
2	+ short, apt and clear, well prioritized, all time used

OPPOSITION (SPEECH)

	understanding of presentation	relevant topics addressed	own opinions presented	prioritisation	time management
0	almost nothing	no or irrelevant	too few	no	poor
1	some main points	few	some	some	reasonable
2	main points	some	some correct	reasonable	fair
3	all relevant points	many	many correct	fair	efficient
4	practically all points	practically all	+ improvement suggestions	very good	+ all time used

DISCUSSION WITH REPORTER

	relevant scientific topics	own opinions presented	opponent's conduct of the discussion	prioritisation
0	almost no	too few	poor	no
1	few	some	some aspects fine	some
2	some	some correct	good	reasonable
3	good	many correct	some aspects efficient	fair
4	new crucial point(s)	+ improvement suggestions	overall efficient	very good

ANSWERS TO JURY and REVIEWER'S QUESTIONS

0	concise and correct or no questions asked
	some incorrect, inconclusive or too long
-1	
-2	deeply incorrect or show deep misconceptions

NOTES:

REVIEWER

Start from 1 and add/subtract

1 + 1 + 15 + 1 + 2 ± 05 − ☐ = 7

QUESTIONS ASKED

0	too few, mostly irrelevant
	relevant, meant to clarify unclear points
1	+ suitably allotted to Rep & Opp, most time used
2	+ short, apt and clear, well prioritized, time managed efficiently

REVIEW OF REPORT

	report evaluation & understanding	pros & cons	prioritisation
0	poor/wrong	irrelevant	no
1	partial	partially relevant	some
2	good	mostly adequate	reasonable
3	detailed, complex	fully adequate	good

REVIEW OF OPPOSITION

	speech evaluation	pros & cons	prioritisation
0	poor/wrong	irrelevant	no
1	too short/long	partially relevant	some
2	informative, apt	mostly adequate	reasonable
3	condensed & accurate	fully adequate	good

DISCUSSION ANALYSIS

	discussion evaluation	correct own opinions
0	almost no	too few
	too short/long	some
1	relevant parts	many
2	accurate, conclusive	fully adequate

MISSED POINTS POINTED OUT

-1	irrelevant
0	none
1	relevant, constructive

ANSWERS TO JURY QUESTIONS

0	concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES:

SCORESHEET sign _[signature]_ Lindner, Thomas

Stage: 2 Fight **1 A**, Problem: **14**

GYPT: Wien: BRG APP Innsbruck:

REPORTER

Start from 1 and add/subtract

$1 + \boxed{5.5} + \boxed{2} - \boxed{0.5} = \boxed{8}$

REPORT

	phenomenon explanation	theory/model	relevant experiments	comparison between theory and experiment	own contribution	task fulfilment	science communication
0	almost no	almost no	too few	no/ almost no	others' data, incorrectly cited	misunderstood	unclear, chaotic
1	some	some	some	some	review of sources, cited	partly	partly clear
2	**X** fair	fair	fair	not well fitting	some own input	average	average
3	good	good	well performed, sufficient number	deviations qualitatively analysed	+ some interesting results	some aspects above average	some parts well done
4							
5	detailed demonstrative	quite detailed, **X** correct	+ results explained **X** errors analysed	+ theory limits explained, conclusive	considerable experimental or theoretical	interesting **X** solution	overall clear, **X** demonstrative
6	deep and comprehensible, shows physical insight	detailed, complex, completely testable	+ reproducible, convincing analysis	well fitting, deviations analysed, conclusive	**X** considerable experimental and theoretical	greater extent than expected	+ complex concepts well communicated
7							

DISCUSSION WITH OPPONENT

	relevant arguments/responses	reporter's conduct at the discussion
0	too few	poor
1	some	some aspects fine
	many	good
2	**X** + data/theory convincingly supported	some aspects **X** efficient
3	proved deep understanding	overall efficient

ANSWERS TO JURY, OPPONENT, and REVIEWER'S QUESTIONS

0 **X**	concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES:

OPPONENT

Start from 1 and add/subtract

$1 + \boxed{0.5} + \boxed{1.5} + \boxed{1.5} - \boxed{0} = \boxed{5}$

QUESTIONS ASKED

0	too few, mostly irrelevant
X	relevant, aimed at resolving unclear points in the report
1	
2	+ short, apt and clear, well prioritized, all time used

OPPOSITION (SPEECH)

	understanding of presentation	relevant topics addressed	own opinions presented	prioritisation	time management
0	almost nothing	no or irrelevant	too few	no	poor
1	**X** some main points	few	**X** some	**X** some	**X** reasonable
2	main points	**X** some	some correct	reasonable	fair
3	all relevant points	many	many correct	fair	efficient
4	practically all points	practically all	+ improvement suggestions	very good	+ all time used

DISCUSSION WITH REPORTER

	relevant scientific topics	own opinions presented	opponent's conduct of the discussion	prioritisation
0	almost no	too few	poor	no
1	few	**X** some	**X** some aspects fine	**X** some
2	**X** some	some correct	good	reasonable
	X good	many correct	some aspects efficient	fair
3				
4	new crucial point(s)	+ improvement suggestions	overall efficient	very good

ANSWERS TO JURY and REVIEWER'S QUESTIONS

0 **X**	concise and correct or no questions asked
	some incorrect,
-1	inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES:

REVIEWER

Start from 1 and add/subtract

$1 + \boxed{1} + \boxed{1} + \boxed{1.5} + \boxed{0.5} \pm \boxed{-1} - \boxed{0} = \boxed{4}$

QUESTIONS ASKED

0	too few, mostly irrelevant
	relevant, meant to clarify unclear points
1 **X**	+ suitably allotted to Rep & Opp, most time used
2	+ short, apt and clear, well prioritized, time managed efficiently

REVIEW OF REPORT

	report evaluation & understanding	pros & cons	prioritisation
0	poor/wrong	irrelevant	no
1	**X** partial	**X** partially relevant	**X** some
2	good	mostly adequate	reasonable
3	detailed, complex	fully adequate	good

REVIEW OF OPPOSITION

	speech evaluation	pros & cons	prioritisation
0	poor/wrong	irrelevant	no
1	too short/long	partially relevant	some
2	**X** informative, apt	**X** mostly adequate	**X** reasonable
3	condensed & accurate	fully adequate	good

DISCUSSION ANALYSIS

	discussion evaluation	correct own opinions
0	almost no	too few
	X too short/long	**X** some
1	relevant parts	many
2	accurate, conclusive	fully adequate

MISSED POINTS POINTED OUT

-1 **X**	irrelevant
0	none
1	relevant, constructive

ANSWERS TO JURY QUESTIONS

0 **X**	concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES: don't disregard centrifugal force ; good on uncertainty predictions

REPORTER

Start from 1 and add/subtract

$1 + \boxed{2} + \boxed{0.5} - \boxed{-1} = \boxed{3}$

REPORT

	phenomenon explanation	theory/model	relevant experiments	comparison between theory and experiment	own contribution	task fulfilment	science communication
0					others' data, incorrectly cited	misunderstood	unclear, chaotic
1	almost no	almost no ✗	too few	no/ almost no ✗	review of sources, cited	partly ✗	partly clear
2	some ✗	some	some	some own input ✗	average	average	
3	fair	fair	fair	not well fitting			
4	good	good	well performed, sufficient number	deviations qualitatively analysed	+ some interesting results	some aspects above average	some parts well done ✗
5	detailed demonstrative	quite detailed, correct	+ results explained errors analysed	+ theory limits explained, conclusive	considerable experimental or theoretical	interesting solution	overall clear, demonstrative
6	deep and comprehensible, shows physical insight	detailed, complex, completely testable	+ reproducible, convincing analysis	well fitting, deviations analysed, conclusive	considerable experimental and theoretical	greater extent than expected	+ complex concepts well communicated
7							

DISCUSSION WITH OPPONENT

	relevant arguments/responses	reporter's conduct at the discussion
0	too few	poor ✗
1	some ✗	some aspects fine
	many	good
2	+ data/theory convincingly supported	some aspects efficient
3	proved deep understanding	overall efficient

ANSWERS TO JURY, OPPONENT, and REVIEWER'S QUESTIONS

0	concise and correct or no questions asked
-1	some incorrect, inconclusive or too long ✗
-2	deeply incorrect or show deep misconceptions

NOTES:

OPPONENT

Start from 1 and add/subtract

$1 + \boxed{1} + \boxed{2.5} + \boxed{1.5} - \boxed{0} = \boxed{6}$

QUESTIONS ASKED

0	too few, mostly irrelevant
1	relevant, aimed at resolving unclear points in the report ✗
2	+ short, apt and clear, well prioritized, all time used

OPPOSITION (SPEECH)

	understanding of presentation	relevant topics addressed	own opinions presented	prioritisation	time management
0	almost nothing	no or irrelevant	too few	no	poor
1	some main points	few	some ✗	some	reasonable
2	main points	some ✗	some correct ✗	reasonable	fair
3	all relevant points ✗	many	many correct	fair ✗	efficient ✗
4	practically all points	practically all	+ improvement suggestions	very good	+ all time used

DISCUSSION WITH REPORTER

	relevant scientific topics	own opinions presented	opponent's conduct of the discussion	prioritisation
0	almost no	too few	poor	no
1	few	some ✗	some aspects fine	some
2	some ✗	some correct	good	reasonable ✗
3	good	many correct	some aspects efficient	fair
4	new crucial point(s)	+ improvement suggestions	overall efficient	very good

ANSWERS TO JURY and REVIEWER'S QUESTIONS

0	concise and correct or no questions asked ✗
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES: good to raise the relevance issue, be honest: there is no need to downplay your opinion, electromagnetic waves?

REVIEWER

Start from 1 and add/subtract

$1 + \boxed{1.5} + \boxed{2} + \boxed{2} + \boxed{1.5} \pm \boxed{1} - \boxed{1} = \boxed{8}$

QUESTIONS ASKED

0	too few, mostly irrelevant
	relevant, meant to clarify unclear points
1	+ suitably allotted to Rep & Opp, most time used ✗
2	+ short, apt and clear, well prioritized, time managed efficiently

REVIEW OF REPORT

	report evaluation & understanding	pros & cons	prioritisation
0	poor/wrong	irrelevant	no
1	partial	partially relevant	some
2	good ✗	mostly adequate	reasonable ✗
3	detailed, complex	fully adequate	good

REVIEW OF OPPOSITION

	speech evaluation	pros & cons	prioritisation
0	poor/wrong	irrelevant	no
1	too short/long	partially relevant	some
2	informative, apt	mostly adequate	reasonable ✗
3	condensed & accurate ✗	fully adequate	good

DISCUSSION ANALYSIS

	discussion evaluation	correct own opinions
0	almost no	too few
1	too short/long	some
	relevant parts	many
2	accurate, conclusive ✗	fully adequate ✗

MISSED POINTS POINTED OUT

-1	irrelevant
0	none
1	relevant, constructive ✗

ANSWERS TO JURY QUESTIONS

0	concise and correct or no questions asked
-1	some incorrect, inconclusive or too long ✗
-2	deeply incorrect or show deep misconceptions

NOTES: good to bring in dispersion!

Wien: **BRG APP Innsbruck:**   **Germany Rosenheim:**

REPORTER

Start from 1 and add/subtract

$1 + [0.5] + [0.5] - [0] = [2]$

REPORT

	phenomenon explanation	theory/model	relevant experiments	comparison between theory and experiment	own contribution	task fulfilment	science communication
0	almost no	almost no	too few .	no/ almost no •	others' data, incorrectly cited	misunderstood •	unclear, chaotic
1	some	some	some •	some	review of sources, cited	partly	partly clear •
2	fair	fair	fair	not well fitting	some own input •	average	average
3	good	good	well performed, sufficient number	deviations qualitatively analysed	+ some interesting results	some aspects above average	some parts well done
4							
5	detailed demonstrative	quite detailed, correct	+ results explained errors analysed	+ theory limits explained, conclusive	considerable experimental or theoretical	interesting solution	overall clear, demonstrative
6	deep and comprehensible, shows physical insight	detailed, complex, completely testable	+ reproducible, convincing analysis	well fitting, deviations analysed, conclusive	considerable experimental and theoretical	greater extent than expected	+ complex concepts well communicated
7							

DISCUSSION WITH OPPONENT

	relevant arguments/responses	reporter's conduct at the discussion
0	too few	poor
	some •	some aspects fine
1	many	good
2	+ data/theory convincingly supported	some aspects efficient
3	proved deep understanding	overall efficient

ANSWERS TO JURY, OPPONENT, and REVIEWER'S QUESTIONS

0 •	concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES:

OPPONENT

Start from 1 and add/subtract

$1 + [0] + [2✗] + [2.5] - [0] = [6]$

Acoustic waves are not electro magnetic ▽

QUESTIONS ASKED

0 •	too few, mostly irrelevant
1	relevant, aimed at resolving unclear points in the report
2	+ short, apt and clear, well prioritized, all time used

OPPOSITION (SPEECH)

	understanding of presentation	relevant topics addressed	own opinions presented	prioritisation	time management
0	almost nothing	no or irrelevant	too few	no	poor
1	some main points•	few	some •	some	reasonable
2	main points	some	some correct	reasonable•	fair
3	all relevant points	many •	many correct	fair	efficient •
4	practically all points	practically all	+ improvement suggestions	very good	+ all time used

DISCUSSION WITH REPORTER

	relevant scientific topics	own opinions presented	opponent's conduct of the discussion	prioritisation
0	almost no	too few	poor	no
1	few	some	some aspects fine	some
2	some •	some correct •	good	reasonable
3	good	many correct	some aspects efficient	fair
4	new crucial point(s)	+ improvement suggestions	overall efficient	very good

ANSWERS TO JURY and REVIEWER'S QUESTIONS

0 •	concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES:

REVIEWER

Start from 1 and add/subtract

$1 + [2] + [2.5] + [0.5] + [1] ± [0/0] - [0] = [7]$

QUESTIONS ASKED

0	too few, mostly irrelevant
	relevant, meant to clarify unclear points
1	+ suitably allotted to Rep & Opp, most time used
2 •	+ short, apt and clear, well prioritized, time managed efficiently

REVIEW OF REPORT

	report evaluation & understanding	pros & cons	prioritisation
0	poor/wrong	irrelevant	no
1	partial	partially relevant	some
2	good	mostly adequate •	reasonable •
3	detailed, complex	fully adequate	good

REVIEW OF OPPOSITION

	speech evaluation	pros & cons	prioritisation
0	poor/wrong	irrelevant	no •
1	too short/long	partially relevant	some
2	informative, apt	mostly adequate	reasonable
3	condensed & accurate	fully adequate	good

DISCUSSION ANALYSIS

	discussion evaluation	correct own opinions
0	almost no	too few
	too short/long	some
1	relevant parts	many •
2	accurate, conclusive	fully adequate

MISSED POINTS POINTED OUT

-1	irrelevant
0	none
1	relevant, constructive

ANSWERS TO JURY QUESTIONS

0	concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES:

REPORTER

Start from 1 and add/subtract

1 + 1 + 0.5 - 0.5 = 2

REPORT 0.5-1

	phenomenon explanation	theory/model	relevant experiments	comparison between theory and experiment	own contribution	task fulfilment	science communication
0	almost no	almost no	too few	no/ almost no	others' data, incorrectly cited	misunderstood	unclear, chaotic
1	some	some	some	some	review of sources, cited	partly	partly clear
2	fair	fair	fair	not well fitting	some own input	average	average
3	good	good	well performed, sufficient number	deviations qualitatively analysed	+ some interesting results	some aspects above average	some parts well done
4							
5	detailed demonstrative	quite detailed, correct	+ results explained errors analysed	+ theory limits explained, conclusive	considerable experimental or theoretical	interesting solution	overall clear, demonstrative
6	deep and comprehensible, shows physical insight	detailed, complex, completely testable	+ reproducible, convincing analysis	well fitting, deviations analysed, conclusive	considerable experimental and theoretical	greater extent than expected	+ complex concepts well communicated
7							

DISCUSSION WITH OPPONENT 0.5-1

	relevant arguments/responses	reporter's conduct at the discussion
0	too few	poor
1	some	some aspects fine
	many	good
2	+ data/theory convincingly supported	some aspects efficient
3	proved deep understanding	overall efficient

ANSWERS TO JURY, OPPONENT, and REVIEWER'S QUESTIONS

0	concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES: no theory or laser sound expl.

OPPONENT

Start from 1 and add/subtract

1 + 1 + 1.5 + 2.5 - 0.5 = 6

QUESTIONS ASKED 0.5-1

0	too few, mostly irrelevant
1	relevant, aimed at resolving unclear points in the report
2	+ short, apt and clear, well prioritized, all time used

OPPOSITION (SPEECH) 1-1.5

	understanding of presentation	relevant topics addressed	own opinions presented	prioritisation	time management
0	almost nothing	no or irrelevant	too few	no	poor
1	some main points	few	some	some	reasonable
2	main points	some	some correct	reasonable	fair
3	all relevant points	many	many correct	fair	efficient
4	practically all points	practically all	+ improvement suggestions	very good	+ all time used

DISCUSSION WITH REPORTER 2-3

	relevant scientific topics	own opinions presented	opponent's conduct of the discussion	prioritisation
0	almost no	too few	poor	no
1	few	some	some aspects fine	some
2	some	some correct	good	reasonable
3	good	many correct	some aspects efficient	fair
4	new crucial point(s)	+ improvement suggestions	overall efficient	very good

ANSWERS TO JURY and REVIEWER'S QUESTIONS

0	concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES: Sound is e-m wave, material doesn't influence the speed of sound

REVIEWER

Start from 1 and add/subtract

1 + 1 + 1.5 + 1.5 + 1.5 ± 1 - 0 = 8

QUESTIONS ASKED 0.5-1

0	too few, mostly irrelevant
1	relevant, meant to clarify unclear points
	+ suitably allotted to Rep & Opp, most time used
2	+ short, apt and clear, well prioritized, time managed efficiently

REVIEW OF REPORT 1-2

	report evaluation & understanding	pros & cons	prioritisation
0	poor/wrong	irrelevant	no
1	partial	partially relevant	some
2	good	mostly adequate	reasonable
3	detailed, complex	fully adequate	good

REVIEW OF OPPOSITION 1.5-2

	speech evaluation	pros & cons	prioritisation
0	poor/wrong	irrelevant	no
1	too short/long	partially relevant	some
2	informative, apt	mostly adequate	reasonable
3	condensed & accurate	fully adequate	good

DISCUSSION ANALYSIS 1-1.5

	discussion evaluation	correct own opinions
0	almost no	too few
1	too short/long	some
	relevant parts	many
2	accurate, conclusive	fully adequate

MISSED POINTS POINTED OUT 1

-1	irrelevant
0	none
	relevant, constructive

ANSWERS TO JURY QUESTIONS

0	concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES:

Wien: BRG APP Innsbruck: Germany Rosenheim:

REPORTER   Start from 1 and add/subtract

$$1 + \boxed{2} + \boxed{1} - \boxed{0} = \boxed{4}$$

REPORT

	phenomenon explanation	theory/model	relevant experiments	comparison between theory and experiment	own contribution	task fulfilment	science communication
0	almost no	almost no	too few	no/ almost no	others' data, incorrectly cited	misunderstood	unclear, chaotic
1	some	some	some	review of sources, cited	partly	partly clear
2	fair	fair	fair	not well fitting	some own input	average	average
3	good	good	well performed, sufficient number	deviations qualitatively analysed	+ some interesting results	some aspects above average	some parts well done
4							
5	detailed demonstrative	quite detailed, correct	+ results explained errors analysed	+ theory limits explained, conclusive	considerable experimental or theoretical	interesting solution	overall clear, demonstrative
6	deep and comprehensible, shows physical insight	detailed, complex, completely testable	+ reproducible, convincing analysis	well fitting, deviations analysed, conclusive	considerable experimental and theoretical	greater extent than expected	+ complex concepts well communicated
7							

DISCUSSION WITH OPPONENT

	relevant arguments/responses	reporter's conduct at the discussion
0	too few	poor
1	some	some aspects fine
	many	good
2	+ data/theory convincingly supported	some aspects efficient
3	proved deep understanding	overall efficient

ANSWERS TO JURY, OPPONENT, and REVIEWER'S QUESTIONS

0	✗ concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES:

OPPONENT   Start from 1 and add/subtract

$$1 + \boxed{1} + \boxed{2} + \boxed{2} - \boxed{0} = \boxed{6}$$

QUESTIONS ASKED

0	too few, mostly irrelevant
1	✗ relevant, aimed at resolving unclear points in the report
2	+ short, apt and clear, well prioritized, all time used

OPPOSITION (SPEECH)

	understanding of presentation	relevant topics addressed	own opinions presented	prioritisation	time management
0	almost nothing	no or irrelevant	too few	no	poor
1	some main points	few	some	some	reasonable
2	main points	some	some correct	reasonable	fair
3	all relevant points	many	many correct	fair	efficient
4	practically all points	practically all	+ improvement suggestions	very good	+ all time used

DISCUSSION WITH REPORTER

	relevant scientific topics	own opinions presented	opponent's conduct of the discussion	prioritisation
0	almost no	too few	poor	no
1	few	some	some aspects fine	some
2	some	some correct	good	reasonable
3	good	many correct	some aspects efficient	fair
4	new crucial point(s)	+ improvement suggestions	overall efficient	very good

ANSWERS TO JURY and REVIEWER'S QUESTIONS

0	✗ concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES:

REVIEWER   Start from 1 and add/subtract

$$1 + \boxed{1} + \boxed{2} + \boxed{1} + \boxed{1} \pm \boxed{0} - \boxed{0} = \boxed{6}$$

QUESTIONS ASKED

0	too few, mostly irrelevant
1	relevant, meant to clarify unclear points
	+ suitably allotted to Rep & Opp, most time used
2	+ short, apt and clear, well prioritized, time managed efficiently

REVIEW OF REPORT

	report evaluation & understanding	pros & cons	prioritisation
0	poor/wrong	irrelevant	no
1	partial	partially relevant	some
2	good	mostly adequate	reasonable
3	detailed, complex	fully adequate	good

REVIEW OF OPPOSITION

	speech evaluation	pros & cons	prioritisation
0	poor/wrong	irrelevant	no
1	too short/long	partially relevant	some
2	informative, apt	mostly adequate	reasonable
3	condensed & accurate	fully adequate	good

DISCUSSION ANALYSIS

	discussion evaluation	correct own opinions
0	almost no	too few
1	too short/long	some
	relevant parts	many
2	accurate, conclusive	fully adequate

MISSED POINTS POINTED OUT

-1	irrelevant
0	none
1	relevant, constructive

ANSWERS TO JURY QUESTIONS

0	✗ concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES:

IYPT – March 2019

SCORESHEET

Stage: 3 Fight **1 A**, Problem: 8

sign _[signature]_   Siess, Josef

Wien: BRG APP Innsbruck: _[check]_   Germany Rosenheim:

REPORTER

Start from 1 and add/subtract

$1 + \boxed{1,5} + \boxed{1,5} - \boxed{\ } = \boxed{4}$

REPORT

	phenomenon explanation	theory/model	relevant experiments	comparison between theory and experiment	own contribution	task fulfilment	science communication
0	almost no	almost no ✗	✗ too few	no/ almost no	others' data, incorrectly cited	misunderstood ✓	unclear, chaotic
1	some ✗	some	some	✗ some	review of sources, cited	partly	partly clear
2	fair	fair	fair	not well fitting	some own input	average	average
3	good	good	well performed, sufficient number	deviations qualitatively analysed	+ some interesting results	some aspects above average ✓	some parts well done
4							
5	detailed demonstrative	quite detailed, correct	+ results explained errors analysed	+ theory limits explained, conclusive	considerable experimental or theoretical	interesting solution	overall clear, demonstrative
6	deep and comprehensible, shows physical insight	detailed, complex, completely testable	+ reproducible, convincing analysis	well fitting, deviations analysed, conclusive	considerable experimental and theoretical	greater extent than expected	+ complex concepts well communicated
7							

DISCUSSION WITH OPPONENT

	relevant arguments/responses	reporter's conduct at the discussion
0	too few	poor ✗
1	some ✗	some aspects fi ✗
	many ✗	good ✓
2	+ data/theory convincingly supported	some aspects efficient
3	proved deep understanding	overall efficient

ANSWERS TO JURY, OPPONENT, and REVIEWER'S QUESTIONS

0	concise and correct or ✗ no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES: ear drum, mechanical waves? dispersion! accuracy?

OPPONENT

Start from 1 and add/subtract

$1 + \boxed{2} + \boxed{2,5} + \boxed{3} - \boxed{\ } = \boxed{8}$

QUESTIONS ASKED

0	too few, mostly irrelevant
1	relevant, aimed at resolving unclear points in the report
2	✗ short, apt and clear, well prioritized, all time used

OPPOSITION (SPEECH)

	understanding of presentation	relevant topics addressed	own opinions presented	prioritisation	time management
0	almost nothing	no or irrelevant	too few	no	poor
1	some main points	few	some	some	reasonable
2	main points ✗	some	some correct	reasonable	fair
3	all relevant points	many ✗	many correct ✓	fair ✗	efficient ✓
4	practically all points	practically all	+ improvement suggestions	very good	+ all time used

DISCUSSION WITH REPORTER

	relevant scientific topics	own opinions presented	opponent's conduct of the discussion	prioritisation
0	almost no	too few	poor	no
1	few	some	some aspects fine	some
2	some ✗	some correct	good ✗	reasonable ✗
3	good	many correct ✗	some aspects efficient	fair
4	new crucial point(s)	+ improvement suggestions ✗	overall efficient	very good

ANSWERS TO JURY and REVIEWER'S QUESTIONS

0	concise and correct or ✗ no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES: focussed on physics   tried to focus

REVIEWER

Start from 1 and add/subtract

$1 + \boxed{1,25} + \boxed{1,25} + \boxed{1,25} + \boxed{1,25} \pm \boxed{1} - \boxed{\ } = \boxed{6}$

QUESTIONS ASKED

0	too few, mostly irrelevant
	relevant, meant to clarify unclear points
1	+ suitably allotted to Rep & Opp, ✗ most time used
2	+ short, apt and clear, well prioritized, time managed efficiently

REVIEW OF REPORT

	report evaluation & understanding	pros & cons	prioritisation
0	poor/wrong	irrelevant	no
1	partial ✗	partially relevant	some
2	good	mostly adequate ✓	reasonable ✓
3	detailed, complex	fully adequate	good

REVIEW OF OPPOSITION

	speech evaluation	pros & cons	prioritisation
0	poor/wrong	irrelevant	no
1	too short/long ✗	partially relevant	some
2	informative, apt	mostly adequate	reasonable
3	condensed & accurate	fully adequate	good

DISCUSSION ANALYSIS

	discussion evaluation	correct own opinions
0	almost no	too few
	too short/long	some
1	relevant parts ✗	many ✗
2	accurate, conclusive	fully adequate

MISSED POINTS POINTED OUT

-1	irrelevant
0	none
1	relevant, constructive ✗

ANSWERS TO JURY QUESTIONS

0	concise and correct or ✗ no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES: (missed out ?)

Observer GYPT

REPORTER

Start from 1 and add/subtract

$1 + \boxed{2.5} + \boxed{1.5} - \boxed{0.5} = \boxed{5}$

REPORT

	phenomenon explanation	theory/model	relevant experiments	comparison between theory and experiment	own contribution	task fulfilment	science communication
0					others' data, incorrectly cited	misunderstood	unclear, chaotic
1	almost no	almost no	too few	no/ almost no			
2	some	some	some	some	review of sources, cited	partly	partly clear
2	**X** fair	fair **X**	fair	not well fitting	some own input	average	average
3			**X** well performed, sufficient number	**X** deviations qualitatively analysed	**X** + some interesting results	**X** some aspects above average	**X** some parts well done
4	good	good					
5	detailed demonstrative	quite detailed, correct	+ results explained errors analysed	+ theory limits explained, conclusive	considerable experimental or theoretical	interesting solution	overall clear, demonstrative
6	deep and comprehensible,	detailed, complex,	+ reproducible,	well fitting, deviations	considerable experimental	greater extent	+ complex concepts well
7	shows physical insight	completely testable	convincing analysis	analysed, conclusive	and theoretical	than expected	communicated

DISCUSSION WITH OPPONENT

	relevant arguments/responses	reporter's conduct at the discussion
0	too few	poor
1	some	**X** some aspects fine
1	many	good
2	**X** + data/theory convincingly supported	some aspects efficient
3	proved deep understanding	overall efficient

ANSWERS TO JURY, OPPONENT, and REVIEWER'S QUESTIONS

0	**X** concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES: reference material directly on slide, only comparison first – why not later,

OPPONENT

Start from 1 and add/subtract

$1 + \boxed{0.5} + \boxed{1.5} + \boxed{1.5} - \boxed{0} = \boxed{5}$

QUESTIONS ASKED

0	**X** too few, mostly irrelevant
1	relevant, aimed at resolving unclear points in the report
2	+ short, apt and clear, well prioritized, all time used

OPPOSITION (SPEECH)

	understanding of presentation	relevant topics addressed	own opinions presented	prioritisation	time management
0	almost nothing	no or irrelevant	too few	no	poor
1	**X** some main points	few	**X** some	some	**X** reasonable
2	main points	**X** some	some correct	**X** reasonable	fair
3	all relevant points	many	many correct	fair	efficient
4	practically all points	practically all	+ improvement suggestions	very good	+ all time used

DISCUSSION WITH REPORTER

	relevant scientific topics	own opinions presented	opponent's conduct of the discussion	prioritisation
0	almost no	too few	poor	no
1	few	some	**X** some aspects fine	some
2	**X** some	**X** some correct	good	**X** reasonable
3	good	many correct	some aspects efficient	fair
4	new crucial point(s)	+ improvement suggestions	overall efficient	very good

ANSWERS TO JURY and REVIEWER'S QUESTIONS

0	**X** concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES:

only empirical points raised in questions,

REVIEWER

Start from 1 and add/subtract

$1 + \boxed{0.5} + \boxed{2} + \boxed{1.5} + \boxed{1} \pm \boxed{0.5} - \boxed{0.5} = \boxed{6}$

QUESTIONS ASKED

0	too few, mostly irrelevant
	X relevant, meant to clarify unclear points
1	+ suitably allotted to Rep & Opp, most time used
2	+ short, apt and clear, well prioritized, time managed efficiently

REVIEW OF REPORT

	report evaluation & understanding	pros & cons	prioritisation
0	poor/wrong	irrelevant	no
1	partial	partially relevant	**X** some
2	good	mostly adequate	reasonable
3	**X** detailed, complex	**X** fully adequate	good

REVIEW OF OPPOSITION

	speech evaluation	pros & cons	prioritisation
0	poor/wrong	irrelevant	no
1	too short/long	partially relevant	**X** some
2	informative, apt	mostly adequate	reasonable
3	**X** condensed & accurate	fully adequate	good

DISCUSSION ANALYSIS

	discussion evaluation	correct own opinions
0	almost no	too few
	too short/long	some
1	relevant parts	**X** many
2	**X** accurate, conclusive	fully adequate

MISSED POINTS POINTED OUT

-1	irrelevant
0	**X** none
1	relevant, constructive

ANSWERS TO JURY QUESTIONS

0	concise and correct or no questions asked
-1	**X** some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES: flow characteristics ~~orfa~~ not most important point

SCORESHEET
Stage: 4 Fight **1 A**, Problem: **5**
BRG APP Innsbruck: Germany Rosenheim: GYPT:

REPORTER

Start from 1 and add/subtract

1 + 4.5 + 2.5 + [ ] = 7

REPORT

	phenomenon explanation	theory/model	relevant experiments	comparison between theory and experiment	own contribution	task fulfilment	science communication
0	almost no	almost no	too few	no/ almost no	others' data, incorrectly cited	misunderstood	unclear, chaotic
1	some	some	some	some	review of sources, cited	partly	partly clear
2	fair	fair •	fair	not well fitting	some own input	average	average
3	good	good	well performed, sufficient number •	deviations qualitatively analysed	+ some interesting results •	some aspects above average	some parts well done
4							
5	detailed demonstrative •	quite detailed, correct	+ results explained errors analysed	+ theory limits explained, conclusive	considerable experimental or theoretical	interesting • solution	overall clear, ✓ demonstrative
6	deep and comprehensible, shows physical insight	detailed, complex, completely testable	+ reproducible, convincing analysis	well fitting, deviations analysed, conclusive	considerable experimental and theoretical	greater extent than expected	+ complex concepts well communicated
7							

DISCUSSION WITH OPPONENT

	relevant arguments/responses	reporter's conduct at the discussion
0	too few	poor
1	some	some aspects fine
	many	good
2	+ data/theory convincingly supported •	some aspects efficient
3	proved deep understanding	overall efficient •

ANSWERS TO JURY, OPPONENT, and REVIEWER'S QUESTIONS

0	concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES: + Live Experiment! Perfect.

OPPONENT

Start from 1 and add/subtract

1 + 0 + 2 + 2.5 − [ ] = 6

QUESTIONS ASKED

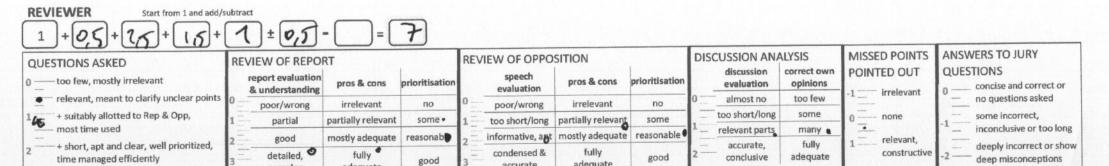|	
0	too few, mostly irrelevant •
1	relevant, aimed at resolving unclear points in the report
2	+ short, apt and clear, well prioritized, all time used

OPPOSITION (SPEECH)

	understanding of presentation	relevant topics addressed	own opinions presented	prioritisation	time management
0	almost nothing	no or irrelevant	too few	no	poor
1	some main points	few	some	some •	reasonable •
2	main points •	some •	some correct •	reasonable	fair
3	all relevant points	many	many correct •	fair	efficient
4	practically all points	practically all	+ improvement suggestions	very good	+ all time used

DISCUSSION WITH REPORTER

	relevant scientific topics	own opinions presented	opponent's conduct of the discussion	prioritisation
0	almost no	too few	poor	no
1	few	some	some aspects fine	some •
2	some	some correct •	good •	reasonable
3	good •	many correct	some aspects efficient	fair
4	new crucial point(s)	+ improvement suggestions	overall efficient	very good

ANSWERS TO JURY and REVIEWER'S QUESTIONS

0	concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES:

REVIEWER

Start from 1 and add/subtract

1 + 0.5 + 2.5 + 1.5 + 1 ± 0.5 − [ ] = 7

QUESTIONS ASKED

0	too few, mostly irrelevant
1	relevant, meant to clarify unclear points •
	+ suitably allotted to Rep & Opp, most time used
2	+ short, apt and clear, well prioritized, time managed efficiently

REVIEW OF REPORT

	report evaluation & understanding	pros & cons	prioritisation
0	poor/wrong	irrelevant	no
1	partial	partially relevant	some •
2	good	mostly adequate	reasonable •
3	detailed, complex ✓	fully adequate •	good

REVIEW OF OPPOSITION

	speech evaluation	pros & cons	prioritisation
0	poor/wrong	irrelevant	no
1	too short/long	partially relevant	some
2	informative, apt •	mostly adequate •	reasonable •
3	condensed & accurate	fully adequate	good

DISCUSSION ANALYSIS

	discussion evaluation	correct own opinions
0	almost no	too few
1	too short/long	some
	relevant parts •	many •
2	accurate, conclusive	fully adequate

MISSED POINTS POINTED OUT

-1	irrelevant
0	none
	•
1	relevant, constructive

ANSWERS TO JURY QUESTIONS

0	concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES:

REPORTER

Start from 1 and add/subtract

$1 + \boxed{2.5} + \boxed{2} - \boxed{0.5} = \boxed{5}$

REPORT 2.5 - 3

	phenomenon explanation	theory/model	relevant experiments	comparison between theory and experiment	own contribution	task fulfilment	science communication
0	almost no	almost no	too few	no/ almost no	others' data, incorrectly cited	misunderstood	unclear, chaotic
1	some	some	some	some	review of sources, cited	partly	partly clear
2	(fair)	fair	fair ✗	(not well fitting)	(some own input)	(average)	average
3	good	(good)	(well performed, sufficient number)	deviations qualitatively analysed	(+ some interesting results)	some aspects above average	some parts well done
4	detailed demonstrative	quite detailed, correct	+ results explained errors analysed	+ theory limits explained, conclusive	considerable experimental or theoretical	interesting solution	(overall clear, demonstrative)
5							
6	deep and comprehensible, shows physical insight	detailed, complex, completely testable	+ reproducible, convincing analysis	well fitting, deviations analysed, conclusive	considerable experimental and theoretical	greater extent than expected	+ complex concepts well communicated
7							

DISCUSSION WITH OPPONENT 1 - 2

	relevant arguments/responses	reporter's conduct at the discussion
0	too few	poor
1	some	some aspects fine
	(many)	good
2	+ data/theory convincingly supported	some aspects efficient
3	proved deep understanding	overall efficient

ANSWERS TO JURY, OPPONENT, and REVIEWER'S QUESTIONS

0	concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES: fit or theory, bottle stp Shape, data analysis

OPPONENT

Start from 1 and add/subtract

$1 + \boxed{1} + \boxed{2} + \boxed{2} - \boxed{0} = \boxed{6}$

QUESTIONS ASKED

0	too few, mostly irrelevant
1	(relevant, aimed at resolving unclear points in the report)
2	+ short, apt and clear, well prioritized, all time used

OPPOSITION (SPEECH) 2 - 2.5

	understanding of presentation	relevant topics addressed	own opinions presented	prioritisation	time management
0	almost nothing	no or irrelevant	too few	no	poor
1	(some main points)	few	some	some	(reasonable)
2	main points	(some)	(some correct)	(reasonable)	fair
3	all relevant points	(many)	(many correct)	fair	efficient
4	practically all points	practically all	+ improvement suggestions	very good	+ all time used

DISCUSSION WITH REPORTER 1 - 2

	relevant scientific topics	own opinions presented	opponent's conduct of the discussion	prioritisation
0	almost no	too few	poor	no
1	(few)	(some)	some aspects fine	(some)
2	(some)	(some correct)	(good)	(reasonable)
3	good	many correct	some aspects efficient	fair
4	new crucial point(s)	+ improvement suggestions	overall efficient	very good

ANSWERS TO JURY and REVIEWER'S QUESTIONS

0	(concise and correct or no questions asked)
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES:

REVIEWER

Start from 1 and add/subtract

$1 + \boxed{0.5} + \boxed{2} + \boxed{1.5} + \boxed{1.5} \pm \boxed{0.5} - \boxed{0.5} = \boxed{7}$

QUESTIONS ASKED

0	too few, mostly irrelevant
	(relevant, meant to clarify unclear points)
1	+ suitably allotted to Rep & Opp, most time used
2	+ short, apt and clear, well prioritized, time managed efficiently

REVIEW OF REPORT 1 - 2

	report evaluation & understanding	pros & cons	prioritisation
0	poor/wrong	irrelevant	no
1	partial	partially relevant	(some)
2	(good)	(mostly adequate)	(reasonable)
3	detailed, complex	fully adequate	good

REVIEW OF OPPOSITION 1 - 1.5

	speech evaluation	pros & cons	prioritisation
0	poor/wrong	irrelevant	no
1	(too short/long)	(partially relevant)	(some)
2	informative, apt	mostly adequate	(reasonable)
3	condensed & accurate	fully adequate	good

DISCUSSION ANALYSIS 1 - 1.5

	discussion evaluation	correct own opinions
0	almost no	too few
1	too short/long	(some)
	(relevant parts)	many
2	accurate, conclusive	fully adequate

MISSED POINTS POINTED OUT 0.5

-1	irrelevant
0	(none)
1	relevant, constructive

ANSWERS TO JURY QUESTIONS

0	(concise and correct or no questions asked)
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES: Laminar and turbulence

REPORTER

Start from 1 and add/subtract

$1 + \boxed{4} + \boxed{2} - \boxed{0} = \boxed{7}$

REPORT

	phenomenon explanation	theory/model	relevant experiments	comparison between theory and experiment	own contribution	task fulfilment	science communication
0					others' data, incorrectly cited	misunderstood	unclear, chaotic
1	almost no	almost no	too few	no/ almost no	review of sources, cited	partly	partly clear
2	some	some	some	some	some own input	average	average
	fair ✗	fair ✗	fair ✗	not well fitting		some aspects ✗ above average	some parts ✗ well done
3			well performed, sufficient number	deviations qualitatively analysed	+ some interesting results ✗		
4	good	good			considerable experimental	interesting	overall clear,
5	detailed	quite detailed,	+ results explained	+ theory limits	or theoretical	solution	demonstrative
6	demonstrative	correct	errors analysed	explained, conclusive			
	deep and comprehensible,	detailed, complex,	+ reproducible,	well fitting, deviations	considerable experimental	greater extent	+ complex concepts well
7	shows physical insight	completely testable	convincing analysis	analysed, conclusive	and theoretical	than expected	communicated

DISCUSSION WITH OPPONENT

	relevant arguments/responses	reporter's conduct at the discussion
0	too few	poor
1	some	some aspects fine
	many ✗	good ✗
2	+ data/theory convincingly supported	some aspects efficient
3	proved deep understanding	overall efficient

ANSWERS TO JURY, OPPONENT, and REVIEWER'S QUESTIONS

0 ✗	concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES:

OPPONENT

Start from 1 and add/subtract

$1 + \boxed{2} + \boxed{2} + \boxed{2} - \boxed{0} = \boxed{7}$

QUESTIONS ASKED

0	too few, mostly irrelevant
1 ✗	relevant, aimed at resolving unclear points in the report
2	+ short, apt and clear, well prioritized, all time used

OPPOSITION (SPEECH)

	understanding of presentation	relevant topics addressed	own opinions presented	prioritisation	time management
0	almost nothing	no or irrelevant	too few	no	poor
1	some main points	few	some	some	reasonable
2	main points	some	some correct ✗	reasonable ✗	fair ✗
3	all relevant points	many	many correct	fair	efficient
4	practically all points	practically all	+ improvement suggestions	very good	+ all time used

DISCUSSION WITH REPORTER

	relevant scientific topics	own opinions presented	opponent's conduct of the discussion	prioritisation
0	almost no	too few	poor	no
1	few	some	some aspects fine	some
2	some ✗	some correct	good ✗	reasonable
3	good	many correct	some aspects efficient	fair
4	new crucial point(s)	+ improvement suggestions	overall efficient	very good

ANSWERS TO JURY and REVIEWER'S QUESTIONS

0 ✗	concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES:

REVIEWER

Start from 1 and add/subtract

$1 + \boxed{1} + \boxed{2} + \boxed{2} + \boxed{1} \pm \boxed{0} - \boxed{0} = \boxed{7}$

QUESTIONS ASKED

0	too few, mostly irrelevant
1 ✗	relevant, meant to clarify unclear points
	+ suitably allotted to Rep & Opp, most time used
2	+ short, apt and clear, well prioritized, time managed efficiently

REVIEW OF REPORT

	report evaluation & understanding	pros & cons	prioritisation
0	poor/wrong	irrelevant	no
1	partial	partially relevant	some
2	good ✗	mostly adequate	reasonable
3	detailed, complex	fully adequate	good

REVIEW OF OPPOSITION

	speech evaluation	pros & cons	prioritisation
0	poor/wrong	irrelevant	no
1	too short/long	partially relevant	some
2	informative, apt ✗	mostly adequate	reasonable
3	condensed & accurate	fully adequate	good

DISCUSSION ANALYSIS

	discussion evaluation	correct own opinions
0	almost no	too few
1	too short/long	some
	relevant parts ✗	many
2	accurate, conclusive	fully adequate

MISSED POINTS POINTED OUT

-1	irrelevant
0 ✗	none
1	relevant, constructive

ANSWERS TO JURY QUESTIONS

0 ✗	concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES:

REPORTER

Start from 1 and add/subtract

$1 + \boxed{4} + \boxed{2} - \boxed{} = \boxed{7}$

REPORT

	phenomenon explanation	theory/model	relevant experiments	comparison between theory and experiment	own contribution	task fulfilment	science communication
0							
	almost no	almost no	too few	no/ almost no	others' data, incorrectly cited	misunderstood	unclear, chaotic
1	some	some	some	some	review of sources, cited	partly	partly clear
2	fair	fair	fair	not well fitting	some own input	average	average
3	good	good	well performed, sufficient number	deviations qualitatively analysed	+ some interesting results	some aspects above average	some parts well done
4							
5	detailed demonstrative	quite detailed, correct	+ results explained errors analysed	+ theory limits explained, conclusive	considerable experimental or theoretical	interesting solution	overall clear, demonstrative
6	deep and comprehensible, shows physical insight	detailed, complex, completely testable	+ reproducible, convincing analysis	well fitting, deviations analysed, conclusive	considerable experimental and theoretical	greater extent than expected	+ complex concepts well communicated
7							

DISCUSSION WITH OPPONENT

	relevant arguments/responses	reporter's conduct at the discussion
0		
	too few	poor
1	some	some aspects fine
	many	good
2	+ data/theory convincingly supported	some aspects efficient
3	proved deep understanding	overall efficient

ANSWERS TO JURY, OPPONENT, and REVIEWER'S QUESTIONS

0	✗ concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES: *life experiment!*   *real bottle / neck*

OPPONENT

Start from 1 and add/subtract

$1 + \boxed{1,5} + \boxed{2} + \boxed{2} - \boxed{} = \boxed{7}$

QUESTIONS ASKED

0	too few, mostly irrelevant
1	✗ relevant, aimed at resolving unclear points in the report
2	+ short, apt and clear, well prioritized, all time used

OPPOSITION (SPEECH)

	understanding of presentation	relevant topics addressed	own opinions presented	prioritisation	time management
0	almost nothing	no or irrelevant	too few	no	poor
1	some main points	few ✗	some ✗	some	reasonable ✗
2	main points	some	some correct	reasonable	fair
3	all relevant points	many	many correct	fair	efficient
4	practically all points	practically all	+ improvement suggestions	very good	+ all time used

DISCUSSION WITH REPORTER

	relevant scientific topics	own opinions presented	opponent's conduct of the discussion	prioritisation
0	almost no	too few	poor	no
1	few	some	some aspects fine	some
2	some	some correct	good	reasonable
3	good	many correct	some aspects efficient	fair
4	new crucial point(s)	+ improvement suggestions	overall efficient	very good

ANSWERS TO JURY and REVIEWER'S QUESTIONS

0	✗ concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES: *error analysis ✓*   *theory/exp. fit ? Δ*   *bottle neck ✓*

REVIEWER

Start from 1 and add/subtract

$1 + \boxed{1,5} + \boxed{2} + \boxed{1,5} + \boxed{1,25} \pm \boxed{} - \boxed{} = \boxed{7}$

QUESTIONS ASKED

0	too few, mostly irrelevant
1	relevant, meant to clarify unclear points
	✗ + suitably allotted to Rep & Opp, most time used
2	+ short, apt and clear, well prioritized, time managed efficiently

REVIEW OF REPORT

	report evaluation & understanding	pros & cons	prioritisation
0	poor/wrong	irrelevant	no
1	partial	partially relevant	some
2	✗ good	mostly adequate	reasonable
3	detailed, complex	fully adequate	good

REVIEW OF OPPOSITION

	speech evaluation	pros & cons	prioritisation
0	poor/wrong	irrelevant	no
1	too short/long	partially relevant	some
2	informative, apt	mostly adequate	reasonable
3	condensed & accurate	fully adequate	good

DISCUSSION ANALYSIS

	discussion evaluation	correct own opinions
0	almost no	too few
	too short/long	✗ some
1	✗ relevant parts	many
2	accurate, conclusive	fully adequate

MISSED POINTS POINTED OUT

-1	irrelevant
0	✗ none
1	relevant, constructive

ANSWERS TO JURY QUESTIONS

0	✗ concise and correct or no questions asked
-1	some incorrect, inconclusive or too long
-2	deeply incorrect or show deep misconceptions

NOTES: *only 2 parameters changed, size, what other parameters?*