

# Scoring Guidelines

Fight (Round no.): 3 Room: 0 Stage: 1 Problem no.: 1

Juror: PCASCH Signature: [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 no questions were posed or not finding shortcomings 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

0

### Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

-0.5

### Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

0

### Presentation ±1

- Clear and understandable
- Appropriate manner
- Overall impression

1

### Presentation ±1

- Clear and understandable
- Appropriate manner
- Overall impression

0

### Presentation ±1

- Clear and understandable
- Appropriate manner
- Overall impression

0.5

### Reporter ±1

- Quality of experimental technique(s)
- Structure
- Explanation of formulae and symbols
- Appropriate models, conformity of dimensions
- Slides, on-site experiments, audio, video, as appropriate
- References, proper citations of ideas and input of others
- Novelty of the report
- Contribution to the discussion

-0.5

### 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

0

### 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

-0.5

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

5

Final Grade: Opponent

4

Final Grade: Reviewer

5

# Scoring Guidelines

Fight (Round no.): 3 Room: G Stage: 1 Problem no.: 1

Juror: Daniela Ivanova Signature: [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

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

- The grade for each of the three teams consists of a partial grade for **physics, presentation** and for their **specific role**.
- The **reporter, opponent** and **reviewer** each **start with 5 points**.
- Consider the following **suggestions** to **add** to or **deduct** from the initial **5 points**.
- Select each partial grade from each section and **write it** in the corresponding box.
- Don't punish missing 'answers' when no questions were posed or not finding shortcomings if there were none to find.

Rep.: Korea 5

Opp.: Indonesia 5

Rev.: New Zealand 5

### Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

+1

### 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

1

### Presentation ±1

- Clear and understandable
- Appropriate manner
- Overall impression

### Presentation ±1

- Clear and understandable
- Appropriate manner
- Overall impression

### Reporter ±1

- Quality of experimental technique(s)
- Structure
- Explanation of formulae and symbols
- Appropriate models, conformity of dimensions
- Slides, on-site experiments, audio, video, as appropriate
- References, proper citations of ideas and input of others
- Novelty of the report
- Contribution to the discussion

### Opponent ±1

- Response to the reporter's solution
- Shows the strong and weak points of the report
- Finds shortcomings or errors in the report
- Relevance of the questions
- Contribution to the discussion

+1

### 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

-1

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

6

Final Grade: Opponent

4

Final Grade: Reviewer

4

# Scoring Guidelines

Fight (Round no.): 3 Room: G Stage: 1 Problem no.: 1

Juror: Patrick Kerner Signature: P. Kerner

## A report should include:

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Rep.: Korea 5

### Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

### Presentation ±1

- Clear and understandable
- Appropriate manner
- Overall impression

### Reporter ±1

- Quality of experimental technique(s)
- Structure
- Explanation of formulae and symbols
- Appropriate models, conformity of dimensions
- Slides, on-site experiments, audio, video, as appropriate
- References, proper citations of ideas and input of others
- Novelty of the report
- Contribution to the discussion

Final Grade: Reporter

4

Opp.: Indonesia 5

### Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

### Presentation ±1

- Clear and understandable
- Appropriate manner
- Overall impression

### 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

Final Grade: Opponent

4

Rev.: New Zealand 5

### Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

### Presentation ±1

- Clear and understandable
- Appropriate manner
- Overall impression

### Reviewer ±1

- Provides a thorough review of report and discussion
- 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

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Final Grade: Reviewer

4

# Scoring Guidelines

Fight (Round no.): 3 Room: G Stage: 1 Problem no.: \_\_\_\_\_

Juror: T. Gahechiladze Signature: a. pshy

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Rep.: Korea 5

### Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

### Presentation ±1

- Clear and understandable
- Appropriate manner
- Overall impression

### Reporter ±1

- Quality of experimental technique(s)
- Structure
- Explanation of formulae and symbols
- Appropriate models, conformity of dimensions
- Slides, on-site experiments, audio, video, as appropriate
- References, proper citations of ideas and input of others
- Novelty of the report
- Contribution to the discussion

Final Grade: Reporter

8

Opp.: Indonesia 5

### Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

### Presentation ±1

- Clear and understandable
- Appropriate manner
- Overall impression

### 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

Final Grade: Opponent

6

Rev.: New Zealand 5

### Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

### Presentation ±1

- Clear and understandable
- Appropriate manner
- Overall impression

### Reviewer ±1

- Provides a thorough review of report and discussion
- 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 – please **do not bend**

Final Grade: Reviewer

7

# Scoring Guidelines

Fight (Round no.): 3 Room: G Stage: 1 Problem no.: 1  
 Juror: Olga Ivishcheva Signature: [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
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  - the reviewer's **personal opinion** was in evidence (**not just superficial observations**)
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- The **reporter, opponent** and **reviewer** each **start with 5 points**.
- Consider the following **suggestions** to **add** to or **deduct** from the initial **5 points**.
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- Don't punish missing 'answers' when no questions were posed or not finding shortcomings if there were none to find.

Rep.: Korea 5

- Physics ±3** +1.5
- Correct and relevant physics
  - Scientific approach
  - Validity of conclusions
  - Accurate answers

- Presentation ±1** +1
- Clear and understandable
  - Appropriate manner
  - Overall impression

- Reporter ±1** +0.5
- Quality of experimental technique(s)
  - Structure
  - Explanation of formulae and symbols
  - Appropriate models, conformity of dimensions
  - Slides, on-site experiments, audio, video, as appropriate
  - References, proper citations of ideas and input of others
  - Novelty of the report
  - Contribution to the discussion

Final Grade: Reporter 8

Opp.: Indon. 5

- Physics ±3** +1
- Correct and relevant physics
  - Scientific approach
  - Validity of conclusions
  - Accurate answers

- Presentation ±1** 0
- Clear and understandable
  - Appropriate manner
  - Overall impression

- Opponent ±1** 0
- 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

Final Grade: Opponent 6

Rev.: New Z. 5

- Physics ±3** 0
- Correct and relevant physics
  - Scientific approach
  - Validity of conclusions
  - Accurate answers

- Presentation ±1** 0
- Clear and understandable
  - Appropriate manner
  - Overall impression

- Reviewer ±1** +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 – please **do not bend**

Final Grade: Reviewer 6

# Scoring Guidelines

Fight (Round no.): 3 Room: G Stage: 1 Problem no.: 1

Juror: STEVE ADAMS Signature: S.F. Co

**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*
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- such personal opinions were *informative, non-trivial* and demonstrated, where possible, the reviewer's *understanding of concepts, theories, principles and appropriate mathematics* used by the reporter and the opponent

- The grade for each of the three teams consists of a partial grade for *physics, presentation* and for their *specific role*.
- The *reporter, opponent* and *reviewer* each *start with 5 points*.
- Consider the following *suggestions* to *add* to or *deduct* from the initial *5 points*.
- Select each partial grade from each section and *write it* in the corresponding box.
- Don't punish missing 'answers' when no questions were posed or not finding shortcomings if there were none to find.

Rep.: Korea 5

## Physics ±3

- Correct and relevant physics +2
- Scientific approach
- Validity of conclusions *w f w i*
- Accurate answers *colln an exp.*

## Presentation ±1

- Clear and understandable +1
- Appropriate manner *Rushed*
- Overall impression *collision theory*

## Reporter ±1

- Quality of experimental technique(s) ✓
- Structure ✓
- Explanation of formulae and symbols ?
- Appropriate models, conformity of dimensions
- Slides, on-site experiments, audio, video, as appropriate
- References, proper citations of ideas and input of others
- Novelty of the report
- Contribution to the discussion

Final Grade: Reporter

8

Opp.: INDONESIA 5

## Physics ±3

- Correct and relevant physics
- Scientific approach *Missed km*
- Validity of conclusions *pts.*
- Accurate answers *No. rejected*

## Presentation ±1

- Clear and understandable
- Appropriate manner
- Overall impression

## 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

Final Grade: Opponent

6

Rev.: NEW ZEALAND 5

## Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

## Presentation ±1

- Clear and understandable
- Appropriate manner
- Overall impression

## Reviewer ±1

- Provides a thorough review of report and discussion
- 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 – please **do not bend**

Final Grade: Reviewer

7

# Scoring Guidelines

Fight (Round no.): 3 Room: 6 Stage: 2 Problem no.: 14

Juror: Prescott Signature: [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*
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- the opponent *challenged* the *reporter's understanding* of the presented *concepts, theories and principles*
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  - the opponent *critiqued* the *experimental technique* used and questioned the *validity* of the *data*
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Rep.: \_\_\_\_\_ 5

Physics ±3 -2

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

Presentation ±1 -0.5

- Clear and understandable
- Appropriate manner
- Overall impression

Reporter ±1 -0.5

- Quality of experimental technique(s)
- Structure
- Explanation of formulae and symbols
- Appropriate models, conformity of dimensions
- Slides, on-site experiments, audio, video, as appropriate
- References, proper citations of ideas and input of others
- Novelty of the report
- Contribution to the discussion

Final Grade: Reporter 2

Opp.: \_\_\_\_\_ 5

Physics ±3 -1

- Correct and relevant physics
- Scientific approach *not today though*
- Validity of conclusions
- Accurate answers

Presentation ±1 0.5

- Clear and understandable
- Appropriate manner *4 -*
- Overall impression

Opponent ±1 0.3

- 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

Final Grade: Opponent 5

Rev.: \_\_\_\_\_ 5

Physics ±3 1.5

- Correct and relevant physics
- Scientific approach *with clarity*
- Validity of conclusions *⊖*
- Accurate answers

Presentation ±1 0

- Clear and understandable
- Appropriate manner *⊖*
- Overall impression *⊖*

Reviewer ±1 0

- 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 - please **do not bend**

Final Grade: Reviewer 7

# Scoring Guidelines

Fight (Round no.): 3 Room: G Stage: 2 Problem no.: 11

Juror: Daniela Ivanova Signature: [Signature]

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Rep.: Indonesia 5

### Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

-2

### Presentation ±1

- Clear and understandable
- Appropriate manner
- Overall impression

-0.5

### Reporter ±1

- Quality of experimental technique(s)
- Structure
- Explanation of formulae and symbols
- Appropriate models, conformity of dimensions
- Slides, on-site experiments, audio, video, as appropriate
- References, proper citations of ideas and input of others
- Novelty of the report
- Contribution to the discussion

-0.5

Final Grade: Reporter

2

Opp.: New Zealand 5

### Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

0

### Presentation ±1

- Clear and understandable
- Appropriate manner
- Overall impression

0

### 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

+1

Final Grade: Opponent

6

Rev.: Korea 5

### Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

5

### Presentation ±1

- Clear and understandable
- Appropriate manner
- Overall impression

+1

### 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

+1

Final Grade: Reviewer

8

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# Scoring Guidelines

Fight (Round no.): 3 Room: G Stage: 2 Problem no.: 11

Juror: Patrick Kerner Signature: P. Kerner

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- the opponent *challenged* the *reporter's understanding* of the presented *concepts, theories and principles*
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- 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 no questions were posed or not finding shortcomings if there were none to find.

Rep.: Indonesia 5

### Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

### Presentation ±1

- Clear and understandable
- Appropriate manner
- Overall impression

### Reporter ±1

- Quality of experimental technique(s)
- Structure
- Explanation of formulae and symbols
- Appropriate models, conformity of dimensions
- Slides, on-site experiments, audio, video, as appropriate
- References, proper citations of ideas and input of others
- Novelty of the report
- Contribution to the discussion

Final Grade: Reporter

2

Opp.: New Zealand 5

### Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

### Presentation ±1

- Clear and understandable
- Appropriate manner
- Overall impression

### 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

Final Grade: Opponent

8

Rev.: Korea 5

### Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

### Presentation ±1

- Clear and understandable
- Appropriate manner
- Overall impression

### Reviewer ±1

- Provides a thorough review of report and discussion
- 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

Final Grade: Reviewer

8

This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades – please **do not bend**

# Scoring Guidelines

## 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 no questions were posed or not finding shortcomings if there were none to find.

Rep.: Indonesia 5

Physics  $\pm 3$  -3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

Presentation  $\pm 1$  0

- Clear and understandable
- Appropriate manner
- Overall impression

Reporter  $\pm 1$  0

- Quality of experimental technique(s)
- Structure
- Explanation of formulae and symbols
- Appropriate models, conformity of dimensions
- Slides, on-site experiments, audio, video, as appropriate
- References, proper citations of ideas and input of others
- Novelty of the report
- Contribution to the discussion

Final Grade: Reporter 2

Opp.: New Zealand 5

Physics  $\pm 3$  -2

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

Presentation  $\pm 1$  1

- Clear and understandable
- Appropriate manner
- Overall impression

Opponent  $\pm 1$  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

Final Grade: Opponent 5

Rev.: Korea 5

Physics  $\pm 3$  2

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

Presentation  $\pm 1$  0

- Clear and understandable
- Appropriate manner
- Overall impression

Reviewer  $\pm 1$  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 - please **do not bend**

Final Grade: Reviewer 8

# Scoring Guidelines

Fight (Round no.): 3 Room: G Stage: 2 Problem no.: 11

Juror: Olga Inisheva Signature: [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 no questions were posed or not finding shortcomings if there were none to find.

Rep.: Ind 5

### Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

### Presentation ±1

- Clear and understandable
- Appropriate manner
- Overall impression

### Reporter ±1

- Quality of experimental technique(s)
- Structure
- Explanation of formulae and symbols
- Appropriate models, conformity of dimensions
- Slides, on-site experiments, audio, video, as appropriate
- References, proper citations of ideas and input of others
- Novelty of the report
- Contribution to the discussion

Final Grade: Reporter

2

Opp.: WZ 5

### Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

### Presentation ±1

- Clear and understandable
- Appropriate manner
- Overall impression

### 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

Final Grade: Opponent

4

Rev.: KOREA 5

### Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

### Presentation ±1

- Clear and understandable
- Appropriate manner
- Overall impression

### Reviewer ±1

- Provides a thorough review of report and discussion
- 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

Final Grade: Reviewer

8

This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades - please **do not bend**

Rejected: 12 (lanterns)  
 Rejected: 5 (bright ways)

Fight (Round no.): 3 Room: G Stage: 2 Problem no.: 11

Juror: STEVE ADAMS Signature: S.F.A.

# Scoring Guidelines

- 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 no questions were posed or not finding shortcomings if there were none to find.

Rep.: INDONESIA 5

Physics  $\pm 3$  -2

- Correct and relevant physics
- Scientific approach *No quantitative exp.*
- Validity of conclusions *No attempt to link theory*
- Accurate answers

Presentation  $\pm 1$  0.5

- Clear and understandable
- Appropriate manner
- Overall impression

Reporter  $\pm 1$  -1

- Quality of experimental technique(s) *-1*
- Structure
- Explanation of formulae and symbols *-0.5*
- Appropriate models, conformity of dimensions
- Slides, on-site experiments, audio, video, as appropriate
- References, proper citations of ideas and input of others *+0.5*
- Novelty of the report
- Contribution to the discussion

Final Grade: Reporter 3

Opp.: NEW ZEALAND 5

Physics  $\pm 3$  -2

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

Presentation  $\pm 1$  1

- Clear and understandable
- Appropriate manner
- Overall impression

Opponent  $\pm 1$  0

- 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

Final Grade: Opponent 4

Rev.: KOREA 5

Physics  $\pm 3$  1

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

Presentation  $\pm 1$  0.5

- Clear and understandable
- Appropriate manner
- Overall impression

Reviewer  $\pm 1$  0.5

- Provides a thorough review of report and discussion *0.5*
- Expresses own opinion about topics presented or discussed *0.2*
- Relevance of questions to both the reporter and the opponent
- Draws attention to points missed by the reporter or the opponent

Final Grade: Reviewer 7

This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades - please **do not bend**

# Scoring Guidelines

Fight (Round no.): 3 Room: 6 Stage: 3 Problem no.: 3

Juror: PLESCH Signature: [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 no questions were posed or not finding shortcomings if there were none to find.

Rep.: \_\_\_\_\_ 5

Physics ±3 -2

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

Presentation ±1 6

- Clear and understandable
- Appropriate manner
- Overall impression

Reporter ±1 0.5

- Quality of experimental technique(s)
- Structure
- Explanation of formulae and symbols
- Appropriate models, conformity of dimensions
- Slides, on-site experiments, audio, video, as appropriate
- References, proper citations of ideas and input of others
- Novelty of the report
- Contribution to the discussion

Final Grade: Reporter 3

Opp.: \_\_\_\_\_ 5

Physics ±3 -1

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

Presentation ±1 1

- Clear and understandable
- Appropriate manner
- Overall impression

Opponent ±1 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

Final Grade: Opponent 6

Rev.: \_\_\_\_\_ 5

Physics ±3 2

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

Presentation ±1 0

- Clear and understandable
- Appropriate manner
- Overall impression

Reviewer ±1 0.5

- 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

Final Grade: Reviewer 8

This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades – please **do not bend**

# Scoring Guidelines

Fight (Round no.): 3 Room: 6 Stage: 3 Problem no.: 3

Juror: Daniela Ivanova Signature: [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 no questions were posed or not finding shortcomings if there were none to find.

Rep.: New Zealand 5

- Physics ±3** -1
- Correct and relevant physics
  - Scientific approach
  - Validity of conclusions
  - Accurate answers

- Presentation ±1** 0
- Clear and understandable
  - Appropriate manner
  - Overall impression

- Reporter ±1** 1
- Quality of experimental technique(s)
  - Structure
  - Explanation of formulae and symbols
  - Appropriate models, conformity of dimensions
  - Slides, on-site experiments, audio, video, as appropriate
  - References, proper citations of ideas and input of others
  - Novelty of the report
  - Contribution to the discussion

Final Grade: Reporter 3

Opp.: Korea 5

- Physics ±3** 1
- Correct and relevant physics
  - Scientific approach
  - Validity of conclusions
  - Accurate answers

- Presentation ±1** +1
- Clear and understandable
  - Appropriate manner
  - Overall impression

- Opponent ±1** +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

Final Grade: Opponent 8

Rev.: Indonesia 5

- Physics ±3**
- Correct and relevant physics
  - Scientific approach
  - Validity of conclusions
  - Accurate answers

- Presentation ±1**
- Clear and understandable
  - Appropriate manner
  - Overall impression

- Reviewer ±1** 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

Final Grade: Reviewer 6

This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades – please **do not bend**

# Scoring Guidelines

Fight (Round no.): 3 Room: G Stage: 3 Problem no.: 3

Juror: Patrick Kerney Signature: P. Kerney

## 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 no questions were posed or not finding shortcomings if there were none to find.

Rep.: New Zealand 5

### Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

### Presentation ±1

- Clear and understandable
- Appropriate manner
- Overall impression

### Reporter ±1

- Quality of experimental technique(s)
- Structure
- Explanation of formulae and symbols
- Appropriate models, conformity of dimensions
- Slides, on-site experiments, audio, video, as appropriate
- References, proper citations of ideas and input of others
- Novelty of the report
- Contribution to the discussion

Final Grade: Reporter

4

Opp.: Korea 5

### Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

### Presentation ±1

- Clear and understandable
- Appropriate manner
- Overall impression

### 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

Final Grade: Opponent

6

Rev.: Indonesia 5

### Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

### Presentation ±1

- Clear and understandable
- Appropriate manner
- Overall impression

### Reviewer ±1

- Provides a thorough review of report and discussion
- 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 - please **do not bend**

Final Grade: Reviewer

7

# Scoring Guidelines

Fight (Round no.): 3 Room: G Stage: 3 Problem no.: 3

Juror: T. Gachechiladze Signature: [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 no questions were posed or not finding shortcomings if there were none to find.

Rep.: New Zealand 5

### Physics ±3

- 0
- Correct and relevant physics
  - Scientific approach
  - Validity of conclusions
  - Accurate answers

### Presentation ±1

- 1
- Clear and understandable
  - Appropriate manner
  - Overall impression

### Reporter ±1

- 0
- Quality of experimental technique(s)
  - Structure
  - Explanation of formulae and symbols
  - Appropriate models, conformity of dimensions
  - Slides, on-site experiments, audio, video, as appropriate
  - References, proper citations of ideas and input of others
  - Novelty of the report
  - Contribution to the discussion

Final Grade: Reporter

6

Opp.: Korea 5

### Physics ±3

- 2
- Correct and relevant physics
  - Scientific approach
  - Validity of conclusions
  - Accurate answers

### Presentation ±1

- 1
- Clear and understandable
  - Appropriate manner
  - Overall impression

### Opponent ±1

- 0
- 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

Final Grade: Opponent

8

Rev.: Indonesia 5

### Physics ±3

- 0
- Correct and relevant physics
  - Scientific approach
  - Validity of conclusions
  - Accurate answers

### Presentation ±1

- 0
- Clear and understandable
  - Appropriate manner
  - Overall impression

### Reviewer ±1

- 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 – please **do not bend**

Final Grade: Reviewer

6



# Scoring Guidelines

Fight (Round no.): 3 Room: G Stage: 3 Problem no.: 3

Juror: Olga Luishewa Signature: [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 no questions were posed or not finding shortcomings if there were none to find.

Rep.: New Z. 5

### Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

### Presentation ±1

- Clear and understandable
- Appropriate manner
- Overall impression

### Reporter ±1

- Quality of experimental technique(s)
- Structure
- Explanation of formulae and symbols
- Appropriate models, conformity of dimensions
- Slides, on-site experiments, audio, video, as appropriate
- References, proper citations of ideas and input of others
- Novelty of the report
- Contribution to the discussion

Final Grade: Reporter

5

Opp.: Korea 5

### Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

### Presentation ±1

- Clear and understandable
- Appropriate manner
- Overall impression

### 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

Final Grade: Opponent

8

Rev.: Ind. 5

### Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

### Presentation ±1

- Clear and understandable
- Appropriate manner
- Overall impression

### Reviewer ±1

- Provides a thorough review of report and discussion
- 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 - please **do not bend**

Final Grade: Reviewer

7

# Scoring Guidelines

Fight (Round no.): 3 Room: G Stage: 3 Problem no.: 3

Juror: STEVE ADAMS Signature: S.F. Adams

- 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 no questions were posed or not finding shortcomings if there were none to find.

Rep.: New Zealand 5

Physics  $\pm 3$  0

- Correct and relevant physics
- Scientific approach *+1*
- Validity of conclusions *reason?*
- Accurate answers *C.P.F.?*

Presentation  $\pm 1$  -1

- Clear and understandable
- Appropriate manner *marks under*
- Overall impression

Reporter  $\pm 1$  0

- Quality of experimental technique(s) *ok*
- Structure *notes?*
- Explanation of formulae and symbols *under*
- Appropriate models, conformity of dimensions
- Slides, on-site experiments, audio, video, as appropriate
- References, proper citations of ideas and input of others
- Novelty of the report
- Contribution to the discussion

Final Grade: Reporter 4

Opp.: Korea 5

Physics  $\pm 3$  1

- Correct and relevant physics
- Scientific approach *Too much time on time on time for S.A.*
- Validity of conclusions
- Accurate answers *Clarified some things. No consideration of C.P.F.*

Presentation  $\pm 1$  0

- Clear and understandable
- Appropriate manner
- Overall impression

Opponent  $\pm 1$  0

- 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

Final Grade: Opponent 6

Rev.: Indonesia 5

Physics  $\pm 3$  0

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

Presentation  $\pm 1$  0

- Clear and understandable
- Appropriate manner *Points.*
- Overall impression

Reviewer  $\pm 1$  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 - please **do not bend**

Final Grade: Reviewer 6