

Centre Number						Candidate Number				
Surname										
Other Names										
Candidate Signature										

For Examiner's Use	
Examiner's Initials	
Question	Mark
1	
2	
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10	
TOTAL	



General Certificate of Education
Advanced Subsidiary Examination
January 2010

Critical Thinking

CRIT1

Unit 1 Critical Thinking Foundation Unit

Monday 11 January 2010 1.30 pm to 3.00 pm

For this paper you must have:

- a Source Booklet (enclosed).

Time allowed

- 1 hour 30 minutes

Instructions

- Use black ink or black ball-point pen.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- You must answer the questions in the spaces provided. Answers written in margins or on blank pages will not be marked.
- Do all rough work in this book. Cross through any work you do not want to be marked.

Information

- The marks for questions are shown in brackets.
- The maximum mark for this paper is 70 (50 for Section A and 20 for Section B).
- You will be marked on your ability to:
 - use good English
 - organise information clearly
 - use specialist vocabulary where appropriate.

Advice

- The recommended time allocation for this examination is as follows:
 - Initial reading: up to 15 minutes
 - Section A: 45–50 minutes
 - Section B: 30 minutes.



J A N 1 0 C R I T 1 0 1

There are no questions printed on this page

**DO NOT WRITE ON THIS PAGE
ANSWER IN THE SPACES PROVIDED**



SECTION A

Study **Documents A, B and C** before answering **all** the questions in the spaces provided.

There are 50 marks available for this section.

Questions 1 and 2 refer to Document A

1 In paragraph 3, the article gives a recommendation made by the Reform report:

(that) ‘a culture shift is needed so that people no longer boast about their lack of maths skills but are instead embarrassed.’

Identify **one** implicit assumption that is necessary if this recommendation is to be relevant to the problem outlined in the first two paragraphs.

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(2 marks)

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2 Look at the comment by Janet Mertz.

What has Mertz implicitly assumed about the different attitudes of boys and girls regarding the need they feel to ‘fit in with their peers’?

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(1 mark)

1

Turn over ▶



Questions 3 to 5 refer to Document B

3 Look closely at the following part of the exchange:

What I want to know is why people associate being good at maths with being geeky.
Rav

There's no logical reason for it, Rav. It's just people's prejudices. It's cool not to like maths, and that's just the way it is.
Phil

It's cool not to like maths for good reasons. Maths has no heart or soul; it's just formulas and logic and equations. There's no feeling in it. It only uses the logical part of the mind. People are not logical. It's cold and clinical and machine-like. It's the language of robots, not humans.
Emily

Not true. Maths is imaginative. After all, numbers don't really exist. You can't touch the number four. It's like a concept, an idea. Numbers are weird mystical things. You need to have imagination to be good at it.
Claire

3 (a) Identify the conclusion of Emily's argument.

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(1 mark)

3 (b) Assess Claire's response to Emily's argument.

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(4 marks)

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4 Consider the following exchange between Rav and Amy:

I think more people would like maths if they gave it a chance. Also maybe if teachers taught it better. They need to make it more real life so people can see its benefits.

Rav

What do you mean, *‘if they gave it a chance’*? Ever heard of something called the National Curriculum, Rav? It’s not like we have a choice about whether or not to study it. That’s the whole problem. It would be fine if only people who wanted to study it did.

Amy

4 (a) Identify the hypothetical claim made by Rav that Amy is responding to.

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(1 mark)

4 (b) Explain a way in which Amy’s interpretation of what Rav has said might be different from Rav’s intended meaning.

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(2 marks)

Turn over ▶



4 (c) Do you think Amy’s interpretation is fair or unfair? Explain your answer.

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(4 marks)

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5 Look at the final posts by Phil and Emily.

Sure, go ahead and avoid maths. And then don't complain when you find – as a result – you are incapable of forming a logical argument or thinking clearly about anything. Maths sharpens up your mind, makes you think and reason better.

Phil

I assume you've been skipping your maths classes, Phil!

Emily

5 (a) Look at Phil's argument.

5 (a) (i) What recommendation has been implied by his argument?

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(2 marks)

5 (a) (ii) Explain a way in which Phil's argument might be flawed.

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(3 marks)

Turn over ▶



5 (b) Now consider Emily’s response to Phil’s argument.

Who gets the better of this final exchange, and why?

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(4 marks)

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Questions 6 to 9 refer to Document C

6 What is the overall conclusion of Nordling’s article?

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(1 mark)

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7 In paragraphs 4, 5 and 6 the author gives examples of films that present images of maths and/or mathematicians.

7 (a) Identify the intermediate conclusion that Nordling draws from these examples.

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(1 mark)

7 (b) Consider the support that the examples in paragraphs 4, 5 and 6 give for the author's overall argument.

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(5 marks)

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Turn over ▶



8 Look closely at paragraph 8.

8 (a) What conclusion has been implied?

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(1 mark)

8 (b) Explain the support provided, including any implicit assumptions that are required.

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(5 marks)



8 (c) What do you see as the main problem with the reasoning in paragraph 8? Explain your answer.

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(6 marks)

12

Turn over ►



1 1

9 The author makes a comparison in paragraphs 10 and 11 between our images of mathematicians and archaeologists, and the extent to which these are influenced by their portrayal in the media.

9 (a) What is the purpose of the comparison?

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(2 marks)

9 (b) How effective is the comparison in paragraphs 10 and 11? In your answer you may want to consider:

- how effectively it helps support her argument in paragraphs 10 and 11
- how effectively it helps support her overall argument.

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(5 marks)

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Turn over for the next question

Turn over ▶



SECTION B

Answer this question in the spaces provided.

There are 20 marks available for this question.

10 Write a reasoned argument for or against the view that maths deserves to be thought of as 'geeky'.

In answering this question you should:

- use the information, and respond to issues or arguments, in the source documents
- state your conclusion (or conclusions) clearly
- offer effective reasoning to support your conclusion(s).

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