

## Thinking and Reasoning Skills

OCR Level 2 Award in Thinking and Reasoning Skills **J930**

### Examiners' Reports

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**June 2011**

**J930/R/11**

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Reports should be read in conjunction with the published question papers and mark schemes for the Examination.

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# Chief Examiner's Report

## General Comments

It is a great pleasure to report that the June sitting of the Award in Thinking and Reasoning Skills was once more an extremely successful session.

The quality of performance across both units was generally very encouraging, with the majority of candidates using specialist terminology correctly, even those who went on to give answers that attracted partial performance marks. There was evidence that the vast majority of candidates engaged with the stimulus material and questions with an intelligent relish. There was a variety of creative and thoughtful responses to the more open questions on both units which were a pleasure to mark.

Neither the question rubric nor timing appeared to be an issue, as across both units there were few instances of candidates attempting the wrong task or of leaving questions blank or incomplete. The examination appears to have been set at an appropriate level. Overall candidates were able to score marks appropriate to their ability and at the same time more able candidates were stretched. In both units where candidates were given greater freedom to evidence a range of skills with a larger mark tariff, differentiation was clearly achieved. The strongest responses provided enthusiastic focused answers which demonstrated a higher level of skills, whilst weaker responses did enough to attract partial performance marks.

It is pleasing to note that the guidance offered to centres in the June 2010 report regarding "carefully working through pre-release materials" has been taken to heart and nearly all students were able to use their knowledge and understanding of these materials to support their answers to questions in B902. In preparing students for the Award centres may find it helpful to note the following three observations:

- i) A small number of candidates appear to be unfamiliar with some of the terminology and conventions assessed by AO1. For example, some candidates do not appear to know credibility criteria, a similar number seem to be unaware that an assumption is an unstated reason and similar numbers seem to be unfamiliar with the standard ways of representing an argument as a map or visual diagram.
- ii) A greater number of candidates struggle with key parts of skill 8 for A02. Very few candidates can successfully evaluate analogies and only the stronger candidates can distinguish between necessary and sufficient conditions.
- iii) For A03 candidates need to understand that it is their reasoning which is being assessed and that therefore the examples and evidence which they employ have to be relevant and actually support their claims in order to be credited. Most candidates find it easier to develop an argument than to produce a counter-argument and many candidates when developing a counter-argument counter only part of the target claim rather than the whole claim. In order to support centres with AO3 the Autumn term INSET will focus on teaching the skill of synthesis.

# B901 Thinking and Reasoning Skills

## General Comments

The paper was accessible and of an appropriate level of demand. Most candidates were able to recognise technical terminology in the questions and to use appropriate vocabulary in their responses. Most candidates were able to complete the paper in the allocated time.

In Section A, most candidates found it easier to identify the structure of an argument than to distinguish between necessary and sufficient conditions.

In Section B, most candidates were able to use appropriate technical language to identify credibility criteria. Most candidates found it easier to present their own argument than to develop a counter-argument.

## Comments on Individual Questions

### Section A

#### Question 1 (a):

Most candidates recognised that Teacher Z gave an argument, because there was a reason followed by a conclusion.

#### Question 1 (b):

Most candidates recognised that Teacher W gave an explanation, because he was accounting for why the brother did well, rather than seeking to persuade someone that this was so.

#### Question 1 (c):

Most candidates recognised that Teacher X gave a list of information, because there were four separate facts that did not lead to any conclusion.

#### Question 1 (d):

Most candidates recognised that teacher Y was ranting, because there were conclusions unsupported by any reasoning.

#### Question 2 (a):

Many candidates correctly identified “so” and “therefore” as the indicator words in this argument. Credit could not be given to candidates who circled more than two words or underlined more than one section of the text. The mark scheme allowed examiners to award marks to candidates who included the indicator words as part of the intermediate conclusion and conclusion.

#### Question 2 (b):

In previous sessions, candidates had been asked to identify the correct argument map from a selection. In this paper, this question asked candidates to draw their own maps and it was encouraging that many candidates achieved the full three marks. Good answers used the standard abbreviations *R1*, *R2*, *IC* and *C* to identify the argument elements. In this example, the reasons were joined and so, for the maximum three marks, candidates were expected to use a plus sign (+) between the two reasons with only one line or arrow leading from the joined reasons to the intermediate conclusion.

#### Question 3:

To achieve the mark, a candidate needed to recognise that “sitting the exam” is a necessary condition for getting a high grade.

**Question 4:**

To achieve the mark, a candidate needed to recognise that none of first four options were, on their own, a sufficient condition for examination success.

**Question 5 (a):**

Most candidates recognised that Anita waited 15 minutes for the bus.

**Question 5 (b):**

As Anita's bus arrived at 5.15pm, the previous bus must have arrived at 4.45pm.

**Question 5 (c):**

Having missed the bus by 5 minutes, Anita would have had to wait 25 minutes for the next one. Therefore, it would have taken her 55 minutes to get home.

**Question 5 (d):**

Anita has arrived 5 minutes late for the bus, but the buses are running 10 minutes late. Therefore, Anita will have to wait only 5 minutes for a bus to arrive and it will take her 35 minutes to get home.

**Question 6 (a):**

Most candidates recognised that the trend in the number of A grades is an increase of two every year.

**Question 6 (b):**

Most candidates recognised that it would take five years to get from ten A grades to twenty, if the trend is an increase of two per year.

**Question 6 (c):**

Most candidates appeared to understand that, in asking for an assumption, the question was asking them for an unstated reason. Because only one mark could be awarded for this question, the full credit could be awarded to candidates who overstated the assumption by using words such as "all" and "only". Candidates should, nevertheless, be encouraged to identify assumptions with as much precision as possible.

**Question 6 (d):**

Good responses to this question identified similarities and differences in the information and not in the way in which the information was presented. Candidates were not being asked to compare the types of graphs and charts.

**Question 6 (e):**

If the trend is applied to all GCSE subjects, candidates could hypothesise that all students are improving. Alternatively, given that there is an A\* grade at GCSE, they could be credited for hypothesising that the number of pupils doing GCSE is increasing.

**Question 6 (f):**

If the trend is applied to all grades in all GCSE subjects, the best explanation is that the number of pupils doing GCSE is increasing.

**Question 7:**

Most candidates knew how to use the matrix to solve the puzzle. The key deduction was that, because Bella did not receive a postcard from the friend who went to London, the girl who likes camping must be Davina.

## **Section B**

### **Question 8:**

The question asked candidates to suggest options which could be considered, not necessarily proposals likely to be implemented. A good answer had to be an alternative both to current practice and to the proposal made in Document B.

### **Question 9 (a):**

The key word in this question was "identify", which meant that candidates were being asked to state the analogy as it appeared in the passage. When asked to identify an argument element, candidates are encouraged to copy the relevant section precisely, rather than paraphrasing. In part (a) good answers captured the idea of the surface being both "flat" and "smooth".

### **Question 9 (b):**

Good answers identified the idea of the hill being both "steep" and "rocky".

### **Question 10:**

This was the most challenging question on the paper.

### **Question 10 (a):**

The best way of evaluating the usefulness of the analogy was to compare the similarities and differences between the two things being compared by making explicit reference to both sides of the analogy. In identifying the weakness, good answers explained how the proposal to award university places to students with lower grades was unlike cheating. Good answers demonstrated an understanding that the "cheating" in the analogy referred to malpractice and deceit in university applications rather than infidelity in personal relationships.

### **Question 10 (b):**

In identifying the strength of the analogy, good answers explained a similarity between the proposal to award university places to students with lower grades and the practice of cheating. Good answers went beyond a general comment about fairness and compared both sides of the analogy.

### **Question 11 (a):**

Good answers were given by candidates who were familiar with the technical language of credibility criteria. Relevant credibility criteria were bias, ability to observe, vested interest and expertise.

### **Question 11 (b):**

Good answers were given by candidates who were able to explain the relevance of the credibility criterion identified in part (a). Where there was a mismatch between the chosen credibility criterion and the explanation, only one mark could be awarded across the two parts of the question. The most common mismatch was confusion between vested interest and bias.

### **Question 12 (a):**

Statement P most strengthens the argument in Document C, because it is evidence to support the claim that students who achieve lower grades at state schools might have greater potential than independent school students with higher grades.

### **Question 12 (b):**

Statement S most weakens the argument in Document C, because it is evidence that A Level grades are an accurate indicator of potential to succeed in university courses.

**Question 13:**

This question required candidates to write an argument to counter a claim made by the student in Document D. Good answers went beyond a general observation that the student in Document D was “stereotyping” to offer an alternative explanation for there being so few students from maintained schools in university. Good answers demonstrated an understanding of all parts of the claim being made, in particular recognising that the student in Document D was not claiming that “all” state school students mess about in class, nor was he claiming that there are no state school students in university.

**Question 14:**

Candidates engaged enthusiastically with this question, which required them to develop an argument setting out what needs to be done to improve schools so that more students can achieve high grades in public examinations. The question discriminated well. Good answers included two developed reasons to support a precisely stated conclusion. Candidates reaching the top levels of response used evidence or examples to support their reasoning and they explained clearly how their proposals might result in higher grades. By far the most common proposals were suggestions for how schools should eliminate disruptive behaviour in lessons.

**Question 15:**

This question required candidates to anticipate what might happen if teachers at independent and maintained schools swapped places. Good answers described the likely effect of the change of teachers on examination results in both the independent and the maintained schools. The full three marks could also be achieved by candidates who chose to argue that teachers had no impact on exam results and that examination success was entirely the result of other factors.

## B902 Thinking and Reasoning Skills Case Study

### General Comments

The June 2011 sitting of Unit B902 saw the largest entry yet for this paper and it is very pleasing to be able to report that the quality of the entry and the standards achieved were the best we have seen so far. The paper was accessible to all and successfully differentiated between candidates of differing abilities, covering the whole range of marks available. A significant number of candidates gained 48 marks and above, with a much higher proportion than previously getting into the 50s. At the lower end, very few really weak scripts were seen. Overall candidates would seem to have been well prepared for the examination.

The most pleasing aspect of the paper was the clear evidence that centres had taken note of the comments made in last June's report about the importance of candidates having familiarity with the documents in the pre-release material. This was evident in the vast majority of answers to questions 14, 16 and 17. It was also apparent from the fact that very few scripts were seen in which candidates appeared to run out of time and there were relatively few questions which were not attempted. As has previously been noted, there simply is not time to search through the resource booklet during the examination if candidates are not familiar with its contents.

As commented on in the January 2011 report, assessment objective 3 and particularly skill 3 are a major focus for Unit B902 in this specification. Advice on how candidates might be prepared for demonstrating this skill in the examination was given in the January report. From the evidence seen on this paper, some further guidance for candidates would seem to be helpful for the higher mark questions in Section B which require them to produce their own developed argument.

It is important for candidates to understand that it is their reasoning skills which are being assessed here. To reach the top level they need to present a clearly focused argument with persuasive, cogent and fully developed reasons which place minimum reliance on assumptions. Evidence and examples must be relevant and strengthen the reasoning. It is not necessary for candidates to believe everything they are saying personally and whilst the use of counter-argument can be helpful, constant qualification of what is being said is unlikely to strengthen the argument and can lead them off at tangents to their conclusion.

Further advice relating to specific skills within the specification is contained in the more detailed comments below.

### Comments on Individual Questions

#### Section A

##### Question 1:

A surprisingly large minority of candidates did not identify the correct conclusion which could be drawn from the graph. In general questions which require candidates to draw conclusions from data, which is an important aspect of skill 9 in the specification, are not well answered. This should have been a more straightforward example of this sort of question to answer.

##### Question 2:

The majority of candidates correctly circled '*because*', with others gaining credit for '*should*'. There was some evidence of circling words at random. The term *indicator word* should be familiar to all.

**Question 3:**

(a) There were very few candidates who failed to identify the conclusion.  
(b) Most candidates identified all three reasons and some latitude was given as to which words were central to the reasoning, thus needing to be included inside the brackets. The most common error seen was candidates who combined the first two reasons within the same brackets. This could not be credited as the candidates were failing to see two joint reasons working together.

**Question 4:**

Over a quarter of candidates chose the incorrect answer here. Argument maps are an integral part of skill 1 and centres are encouraged to cover these fully with their students.

**Question 5:**

Flaws questions have caused candidates some difficulty in the past, so it was very pleasing to see how well this question was answered, with over 80% of candidates correctly identifying a slippery slope flaw.

**Question 6:**

In common with flaws questions, assumptions have also caused problems for candidates on previous papers, but this was generally well answered. There was a minority of candidates, however, who suggested that '*the students felt caged*' or an alternative extract from the document itself. It cannot be stressed too often to candidates that assumptions are unstated elements of reasoning which, by definition, cannot be found within the text itself.

**Question 7:**

In order to gain credit here candidates had to provide plausible alternative explanations for the 40 broken windows. The benefit of the doubt was given to candidates and suggestions relating to meteorological events which don't normally occur in the UK were accepted, although '*a bear got loose in the school*' was felt to be quite unlikely! A surprising number of candidates suggested that the teachers might have done it.

**Question 8:**

Most candidates were able to identify the analogy. By far the easiest way to gain both marks was to copy the phrases from the document and the most common error was when candidates searched for something deeper and missed the point. Centres should advise candidates to keep it simple in their answers to this sort of question.

**Question 9:**

This question was a good discriminator and there was a very even spread of candidates gaining each of the marks from 0 to 4 across the two parts of the question. Candidates needed to do more than paraphrase the analogy for both marks in part (a). In part (b) the best answers focused on the idea that young people have the potential to absorb more skills, whereas a sponge has a finite capacity. Examiners were looking for answers which focused on the actual analogy, so no credit could be given for simply saying that a sponge is not a human being.

**Question 10:**

The large majority of candidates produced answers which gained credit here. The best responses gained full marks on both parts of the question by explicitly comparing both respondents. However, most only referred to one person, only gaining one mark. Weaker answers were completely unrelated to the stated credibility criterion and could not be credited.

**Question 11:**

This question discriminated well. Very few candidates gained full marks, but equally few gained no marks. There was some evidence of circling letters at random.

**Question 12:**

Most candidates were able to identify weaknesses in the questionnaire, but far fewer successfully explained them. In questions which ask candidates to *identify and explain* they should be encouraged to produce answers which identify the weakness, reason, etc. and then explain by developing the answer. For example, in this question full marks were awarded for an answer such as: 'Only 248 questionnaires were returned, so the sample wasn't large enough to be representative.' The use of the word *so* is not enough alone to guarantee the second mark, but if centres teach students to structure their answers in this way it is likely to encourage developed explanations.

**Question 13:**

As with question 5, it was pleasing to see how many candidates got this right, especially as false appeals can sometimes be harder for students to identify than other common flaws.

**Question 14:**

This question was successfully answered by the majority of candidates. As one mark was awarded for correctly identifying an appropriate letter, the explanation mark did not require a great deal of development here. Candidates had greatest difficulty with Miriam, partly because many had used comment C for Sahid, but also because they often failed to get beyond the fact that she had left school to have a baby to actually explain why she would see education as important to her.

**Section B**

**Question 15:**

Most candidates were able to come up with one or more appropriate questions to ask here, but few produced a full six valid questions. A number of candidates failed to produce six questions and petered out after 3 or 4. The key to success here was to produce questions which would elicit answers which would help in making a decision about the age at which compulsory education should end. As was made clear in the question, it was necessary to use the question words given and some candidates failed to gain marks because they didn't follow this instruction. This question was focused on skill 10 and centres should encourage candidates to practise the skill of generating their own questions in response to some stimulus.

**Question 16:**

As the question which carried the most marks on the paper, this proved to be the best discriminator. Well over 50% of candidates were awarded marks within level 2. This is encouraging in that candidates demonstrated a strong enough awareness of the topic area to be able to produce plausible and relevant reasons in support of their conclusion. The best answers were able to follow a clear line of reasoning in support of the chosen conclusion, making critical use of evidence available in the documents. There were a significant number of answers, however, which limited themselves to level 2 by producing largely 'negative' arguments. These focused on the reasons why the alternatives to the chosen conclusion were not preferable, rather than focusing on the conclusion itself. The weakest answers suggested a poor understanding of the topic area, which is disappointing in the light of the fact that the documents should have been studied prior to the examination.

**Question 17:**

This question illustrated very well the point made in the general comments above about the need for candidates to focus on the reasoning in questions requiring a developed argument. Too many answers to this question were built around an assertion that Karl Abrahams was stereotyping teenagers, without developing a counter argument to his claim. Where a counter-argument is required, it is important for candidates to take the claim and reverse it to produce their conclusions. Many focused on the idea that not all young people are lazy and this is just a minority, but the original claim did not contain the word 'all', so this was usually not a very successful approach. The best answers picked up on the word '*naturally*' as well as providing evidence and examples to demonstrate that young people are actually very active.

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