



**General Certificate of Education (A-level)  
January 2011**

**Critical Thinking**

**CRIT2**

**(Specification 2770)**

**Unit 2: Information, Inference and Explanation.**

**Final**

***Mark Scheme***

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Mark schemes are prepared by the Principal Examiner and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all examiners participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the candidates' responses to questions and that every examiner understands and applies it in the same correct way. As preparation for standardisation each examiner analyses a number of candidates' scripts: alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, examiners encounter unusual answers which have not been raised they are required to refer these to the Principal Examiner.

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# Critical Thinking Mark Scheme

## INTRODUCTION

The nationally agreed assessment objectives in the QCA Subject Criteria for Critical Thinking are:

- AO1** Analyse critically the use of different kinds of reasoning in a wide range of contexts.
- AO2** Evaluate critically the use of different kinds of reasoning in a wide range of contexts.
- AO3** Develop and communicate relevant and coherent arguments clearly and accurately in a concise and logical manner.

- Marks are allocated to the assessment objectives according to the nature of each question and what it is intended to test.
- For Section A, Examiners need only provide a total mark for each of the candidates' answers. They do not need to provide a breakdown by Assessment Objective.
- For Section B, marks should be awarded according to the generic marking grid.
- Candidates should be able to achieve the highest marks with a selection of relevant points, not necessarily the complete range.
- **Indicative content is provided as a guide for examiners. It is not intended to be exhaustive and other valid points must be credited.**

## Unit 2 Information, Inference, Explanation

### Section A

No.	Question	AO:	1	2	3
<b>Questions 1 and 2 refer to Document A</b>					
<b>1</b>	<p><b>Identify one prediction made in Document A. (1 mark)</b></p> <p>That we are likely to see this trend (children living without both married parents, including those living with a lone parent) continue next decade.</p> <p><b>OR</b></p> <p>Children living without both married parents will be less likely to be married themselves.</p> <p><b>OR</b></p> <p>Government expenditure on health and social welfare is also likely to rise in future.</p>		<b>1</b>		
<b>2</b>	<p><b>How reliably can the following be inferred from the data in the text? Briefly explain your answers.</b></p>				
<b>2(a)</b>	<p><b>The number of marriages fell between 1998 and 2008. (3 marks)</b></p> <p><b>This is not reliable because:</b></p> <ul style="list-style-type: none"> <li>the data is only about married parents but people without children also marry</li> <li>It is possible that lone parents are separated from their spouse but remain married.</li> </ul>		<b>1</b>	<b>2</b>	
<b>2(b)</b>	<p><b>There were fewer than 15 million dependent children living with both their married parents in the UK in 2008. (3 marks)</b></p> <p><b>This may be reliably inferred from the data. (1 mark)</b></p> <p>The fall in dependent children living with both married parents from 70% (1998) to 63% (2008) is 1 000 000 children (i.e. 7 percentage points of the total number of dependent children in 1998 is 1 million). So:</p> <p>E.g. <math>1\,000\,000 / 7 = 142\,857</math> i.e. 1% of all dependent children in 1998 = 142 857</p> <p><math>142\,857 \times 70 = 9\,999\,990</math> i.e. 70% (1998) is fewer than 15 million children</p>		<b>1</b>	<b>2</b>	

No.	Question	AO:	1	2	3
	<p>So, given 1 million fewer dependent children were living with both married parents in 2008 than in 1998, there must be fewer than 15 million of them (+2 marks for calculation / explanation).</p> <p>Accurate alternative methods of demonstrating that the inference is reliable should be credited in full. (E.g. Use the fact that 7% is one tenth of the 1998 70% figure).</p>				
2(c)	<p><b>Government health expenditure on children with divorced parents would rise by 50% if all married parents divorced.</b></p> <p style="text-align: right;"><b>(3 marks)</b></p> <p><b>This is not reliable because:</b></p> <ul style="list-style-type: none"> <li>• Increased risk of health problems would not automatically imply an equal increase in cost (if, for example, only minor ailments that are cheap to treat were made more common).</li> <li>• Many children already have divorced parents.</li> <li>• The risk that children develop health problems after divorce is only an estimate. [Max. 2 marks: This point does not address the unreliability of inferring an equal rise in expenditure from a rise in risk of health problems].</li> </ul>		1	2	
<b>Questions 3 to 5 refer to Document B</b>					
3(a)	<p><b>What evidence does Frank Field give in paragraph 1 for his claim that ‘it is a wonder that two-parent families haven’t died out completely’?</b></p> <p style="text-align: right;"><b>(2 marks)</b></p> <p><b>Evidence:</b> That a single mother with two children working 16 hours at the minimum wage has an income after tax credits of £487 a week, yet a two-parent family on the minimum wage would have to work 116 hours to gain the same rewards.</p>		2		
3(b)	<p><b>Suggest one way in which Field’s claim could be challenged, consistent with the evidence he provides.</b></p> <p style="text-align: right;"><b>(2 marks)</b></p> <p><b>Answer:</b> Up to two marks per point.</p> <p>1. It is not a wonder that two-parent families haven't died out completely because there are very good reasons for two-parent families aside from economic reasons. E.g. Love for each other and love for the child.</p>			2	

No.	Question	AO:	1	2	3
	<p>2. Interpreted uncharitably, Field's claim does not follow from the evidence he provides since neither all two-parent families nor all single mothers are part of the welfare system (not all receive tax credits and many earn much more than the minimum wage). In that sense it is an over-generalisation or exaggeration (it would be acceptable to argue that his claim is the conclusion of a slippery slope argument).</p> <p>3. Or, it could be suggested that the argument equivocates between parents in receipt of welfare and all families.</p> <p>4. Persuasive language such as 'indefensible', 'discrimination' and 'wonder' helps to disguise exaggeration.</p>				
	<p><b>Question 4 refers to paragraphs 2 to 5</b></p>				
<p>4(a)</p>	<p><b>The author writes that 'deep economic forces in our society... stack the odds against nurturing our children successfully.' (Paragraph 2). Briefly outline two of the forces.</b></p> <p style="text-align: right;"><b>(4 marks)</b></p> <p><b>Answer:</b> Up to two marks per point.</p> <p>The welfare system or tax credits [1] – at low pay levels tax credits favour working single-parent families over working two parent families economically [2].</p> <p>Unemployment [1] – of semi- or un-skilled men means that large numbers of men can only provide state welfare as income [2].</p> <p>Thatcherism and the destruction of British industry [1–2].</p>		4		

No.	Question	AO:	1	2	3
4(b)	<p><b>Identify one implicit assumption necessary to support the author’s explanation for the rise in single-parent families and explain whether or not it is a fair assumption.</b></p> <p style="text-align: right;"><b>(4 marks)</b></p> <p><b>Answer:</b> Up to two marks for a necessary assumption and up to two marks for an explanation of its fairness.</p> <p><b>Possible assumptions:</b></p> <p>Field assumes that people are motivated by economic factors when ending relationships (rather than love, for example).</p> <p>The economic factors outweigh others in importance, such as changes in social / moral values, in whether parents of low income live together to bring up their children.</p> <p>Field assumes that there is no new work to replace semi-skilled industrial work.</p> <p>Field assumes that semi-skilled men would have married if they had had jobs.</p> <p>Credit any other implicit assumption necessary to Field’s explanation.</p> <p><b>Possible explanations of reasonableness or unreasonableness:</b></p> <p>Yes – E.g. Field is right to assume that single mothers in particular will act so as to maximize their income for the sake of their children’s welfare, regardless of other factors such as love for their children’s father. This is what biology and an understanding of motherly love would lead you to expect.</p> <p>Or: Field is concentrating his argument on people of few economic means, therefore economic considerations are likely to outweigh others.</p> <p>No – E.g. Field is falling into economic determinism when many other factors play an important role, such as:</p> <ul style="list-style-type: none"> <li>• falling religious affiliation</li> <li>• increased diversity of value systems in a multi-cultural society, destabilising mono-cultural tradition</li> <li>• increased individualism</li> <li>• higher teenage pregnancies meaning children are born in relationships with, on average, a lower level of commitment</li> <li>• changing (or reduced) patterns of cultural learning of parenting</li> <li>• increasingly straightforward legal procedures for divorce (e.g. no-fault).</li> </ul>	1	3		

No.	Question	AO:	1	2	3
5	<p><b>Assuming that the information in paragraph 6 is correct, how safe is it to infer that a large number of single parents were defrauding the welfare system at the time?</b></p> <p><b>Briefly explain your answer.</b></p> <p style="text-align: right;"><b>(2 marks)</b></p> <p><b>Answer:</b> Candidates must give a reason for their answer to gain credit.</p> <p>It is not a safe inference. The figure of 200 000 more tax credit claims than single-parent families in the country at the time implies that it was other people who were cheating (two parent families, people with no children, etc).</p>			2	



No.	Question	AO:	1	2	3
<b>Questions 6 and 7 refer to Documents C or D</b>					
6	<p><b>How much can we infer about the growth of single parent families from Document C?</b></p> <p><b>Briefly explain your answer.</b></p> <p style="text-align: right;"><b>(3 marks)</b></p> <p><b>Answer:</b> Candidates must give a reason for their answer to gain credit.</p> <p style="padding-left: 40px;">Up to 3 marks for clear reasoning and full explanation.</p> <p>Possible answers:</p> <p><b>EITHER:</b> We cannot infer anything at all about the growth of single parent families because:</p> <p>The graph represents data on divorce but</p> <ul style="list-style-type: none"> <li>a) divorce is only one possible cause of single parent families (e.g. separation, death, parents never living together)</li> <li>b) not all divorced people have children</li> <li>c) unmarried parents may co-habit</li> <li>d) divorce may be followed by the arrival of a step-parent</li> </ul> <p>The trend on the graph is not clear.</p> <p>Data stops at 2007; there is no data for the trend in 2008–11.</p> <p>E.g. Although the graph gives evidence relevant to the trend in single-parent families (since some divorces leave one parent caring for the children), the trend cannot be inferred from it since many parents co-habit and the divorce rate includes the ending of childless marriages.</p> <p><b>OR:</b> We may be able to infer a little about the growth of single parent families.</p> <p>We could infer an upwards trend in single-parent families from the upwards trend in the divorce rate with very limited safety on the assumption that the majority of parents marry and that childless marriages are no more likely to result in divorce.</p> <p>Even if it is not reasonable to make the assumptions just mentioned, it is very unlikely that other forms of parental co-habitation are more stable than marriages. Thus, the divorce rate could tell us the direction of the trend in single-parent families. (Nor is it likely that an unmarried parent is significantly more likely to be replaced by a stably co-habiting step-parent).</p>	3			

No.	Question	AO:	1	2	3
7	<p><b>Frank Field implies that unemployment caused the number of young single parents to rise.</b></p> <p><b>To what extent does the evidence in Documents C and D justify that claim?</b></p> <p><b>Briefly explain your answer.</b></p> <p style="text-align: right;"><b>(3 marks)</b></p> <p><b>Answer:</b> A judgement about the extent of justification is necessary (explicitly or implicitly) but candidates must give a reason for their answer to gain credit.</p> <p>Overall, given the information available and the difficulty of comparison, candidates should conclude that the evidence does <b>not</b> justify a causal link.</p> <p>Award 1 or 2 marks for each relevant point of assessment, depending on development.</p> <p><b>Document C</b></p> <p>This is about England and Wales not the whole of the UK, as Document D is.</p> <p>The divorce rate is the not the same as the rate of single-parent families as it includes childless couples who divorce.</p> <p>But, it does not include co-habiting parents who split up, nor parents who were never living together.</p> <p>It could be argued that the divorce rate is a reasonable proxy for change in the number of single parent families to some extent and <i>ceteris paribus</i>.</p> <p><b>Document D</b></p> <p>About UK, not England and Wales.</p> <p>It does provide relevant supporting data for Field’s claim that unemployment rose in the early 1980s.</p> <p>Sharp eyed candidates may notice, from the context, that Field’s claim is really about the effect of unemployment of ‘semi-skilled men’ on single-parent families in lower socio-economic classes. However, the graph is about unemployment for the whole UK workforce. Therefore, we need to assume that unemployment affected the workforce in general in a way that is representative of how it affected semi-skilled men, for it to be relevant to Field’s claim.</p>			3	

No.	Question	AO:	1	2	3
	<p><b>Correlation:</b></p> <p>There are spikes in the divorce rate in 1972–3, 1978, 1985–6 and 1994–5 following rises in unemployment in 1971–2, 1976, 1983 and 1993 which <i>may appear</i> to provide only <i>very limited</i> support for Field’s causal claim [1] <b>but</b> as the spike in divorce in 2004–5 is preceded by static or falling unemployment in 2002–4 [1] and / or the 1972–3 rise could be attributed to the 1969 act, allowing divorce. [1]</p> <p>Document C is per 1 000 while Document D is per 100. There is no one-to-one correlation – change in the divorce rate is much less than change in the unemployment rate.</p> <p>Establishing causal relationships requires more than strong correlation in any case, e.g. we need a plausible mechanism to be explained and understood to rule out coincidences. Cause-correlation or <i>post hoc ergo propter hoc</i> flaws may be mentioned and should be made relevant to the actual data presented.</p>				

No.	Question	AO:	1	2	3
Questions 8 and 9 refer to Document E					
This question refers to paragraph 5.					
8(a)	<p><b>Suggest one likely explanation for the fact that, on average, 7 to 11 year olds from a family with 3 or more siblings are 11 months below the average reading age.</b></p> <p style="text-align: right;"><b>(2 marks)</b></p> <p><b>Answer:</b> Up to two marks depending on detail and development.</p> <p>E.g. Lack of parental attention for each child results from the parent's time being split between more siblings.</p> <p>Credit any likely explanation.</p>		1	1	
8(b)	<p><b>Suggest one likely explanation why, on average, children born to unmarried parents are 5 months behind children with married parents, in maths.</b></p> <p style="text-align: right;"><b>(2 marks)</b></p> <p><b>Answer:</b> Up to two marks depending on detail and development.</p> <p>E.g. <i>If</i> more highly educated (and therefore numerate) people tend to marry before having children and <i>if</i> they tend to help their children with maths more effectively than less educated people, then the lag in maths would be explained.</p> <p>E.g. Marriages cost a lot, so unmarried families could be poorer on average and if poverty causes lack of educational achievement that would explain the lag.</p> <p>E.g. Unmarried parents include single-parent families, who may have less time to teach maths to their children due to having to work longer hours and no co-parent to share responsibilities with, unless they are wealthy.</p> <p>Credit any likely explanation.</p>		1	1	

No.	Question	AO:	1	2	3															
9	<p>In asking ‘Do we reach the limits of social research here?’ (Paragraph 2) the author implies that social research cannot tell us what makes a happy family.</p> <p>Assess the case she makes in support of her implied claim.</p> <p style="text-align: right;"><i>(6 marks)</i></p> <table border="1"> <thead> <tr> <th>Levels</th> <th>Marks</th> <th>Descriptors</th> </tr> </thead> <tbody> <tr> <td>Level 3</td> <td>5 – 6</td> <td>Good to excellent response: A well justified assessment, either comprehensive or acutely focused on significant details, with demonstrably clear and accurate understanding of the author’s case, written coherently and clearly.</td> </tr> <tr> <td>Level 2</td> <td>3 – 4</td> <td>Modest to quite good attempt: At least some well supported points of assessment and including a solid grasp of the author’s case, written with reasonable clarity.</td> </tr> <tr> <td>Level 1</td> <td>1 – 2</td> <td>Bare to limited response: Few points offered or developed; lacking clear justification; weak expression with errors impinging on communication.</td> </tr> <tr> <td>Level 0</td> <td>0</td> <td>No valid response to the question.</td> </tr> </tbody> </table>	Levels	Marks	Descriptors	Level 3	5 – 6	Good to excellent response: A well justified assessment, either comprehensive or acutely focused on significant details, with demonstrably clear and accurate understanding of the author’s case, written coherently and clearly.	Level 2	3 – 4	Modest to quite good attempt: At least some well supported points of assessment and including a solid grasp of the author’s case, written with reasonable clarity.	Level 1	1 – 2	Bare to limited response: Few points offered or developed; lacking clear justification; weak expression with errors impinging on communication.	Level 0	0	No valid response to the question.				
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				4	2															

No.	Question	AO:	1	2	3
	<p>A summary of the full case:</p> <ul style="list-style-type: none"> <li>• There is so much variation within groups that it is impossible ever to predict a happy or unhappy outcome for a particular child of any background (paragraph 1)</li> <li>• It is not known how you set about measuring relative rates of unhappiness in couples who decide to stay married (paragraph 2)</li> <li>• There is so much that needs measuring for comparison (paragraph 4)</li> <li>• E.g. We do not know the measures of 'good' relationships which protect children from suffering (paragraph 4)</li> <li>• It is not clear that divorce and single parenthood are the most important problem besetting children (paragraph 6)</li> <li>• There may be a moral disquiet about divorce and single motherhood that goes far beyond practical concern for the children (paragraph 7)</li> </ul> <p>Candidates do <b>not</b> need to provide a full analysis of the author's case. However, an awareness of at least some of the case must be apparent, explicitly or implicitly, for effective assessment to take place.</p> <p>Possible critical points include:</p> <ul style="list-style-type: none"> <li>• It could be argued that the author is inconsistent because she relies on social research (in paragraph 3) when she claims reveals the cause of harm to children (i.e. familial conflict)</li> <li>• The author's claim about limits is ambiguous because it does not make clear whether the limits described are permanent or whether it is simply a challenge to researchers for more evidence</li> <li>• There are ways to measure people's satisfaction with their situation – just by asking them (this may not be a perfect measure of happiness but it is a good enough proxy – if it is good enough for psychologists and market researchers, it is good enough for social research too)</li> <li>• It is unnecessary to rely on measuring happiness itself at all because educational attainment, proclivity to criminality, health outcomes and employment prospects are measurable</li> <li>• The relative importance of problems (paragraph 6) could be construed as a value judgement and therefore beyond the scope of empirical research. This could be interpreted as a real limit on social research or as no limit at all since it applies to all sciences</li> </ul>				

No.	Question	AO:	1	2	3
	<ul style="list-style-type: none"><li data-bbox="328 315 1254 450">• The case made is correct. Subjective features of our experience such as happiness (i.e. phenomenological features) can never be objectively measured. Thus, in so far as we need to measure them here, it is a limit on social research</li></ul>				

**Section B (See Generic mark-grid on page 18)**

No.	Question	AO:	1	2	3
10	<p><b>Construct a reasoned case for or against the following view:</b></p> <p><b>‘Family life is a private affair – the government should be involved only if the law is broken’.</b></p> <p><b>In presenting your case you should:</b></p> <ul style="list-style-type: none"> <li>• <b>draw on relevant information and evidence from the source documents and appendix</b></li> <li>• <b>take account of any relevant general principles</b></li> <li>• <b>consider and respond to counter-arguments</b></li> <li>• <b>produce a structured argument with a clearly stated conclusion or conclusions.</b></li> </ul> <p style="text-align: right;"><b>(30 marks)</b></p> <p>Candidates should be credited for any well argued response which answers and meets the requirements of the question, including but not limited to the examples given below.</p> <p>Candidates may be credited for critical discussion of the meaning of vital concepts employed in the question. E.g. What is private? What counts as involved?</p> <p>Evidence may be taken from any of the documents, including the appendix, but use of the candidate’s own knowledge should also be credited. Evidence should only be credited for its use in argument.</p> <p>Relevant general principles include a right to self-determination, equality of outcome or opportunity, Mill’s principle of liberty, the sanctity of marriage or children’s rights.</p> <p><b>Possible arguments for government intervention:</b></p> <p>Candidates could argue that the effects of family breakdown and single-parenthood reduce private freedom for those least able to defend it, namely children. Intervention would thus be freedom promoting.</p> <p>Candidates could argue that consequences of family breakdown and single-parenthood are so profound for the children and communities in which they live, that the government must directly intervene in family life. (This claim could be nuanced – that the effects are particularly important in certain areas or for certain groups, such as those in poor communities). Such an argument could draw on Document A and the CIVITAS report in the appendix and mention children’s rights.</p>			2	28



No.	Question	AO:	1	2	3
	<p>Candidates could argue that indirect action is justified, developing Frank Field's ideas about altering the welfare system, education and economic policy to reduce unemployment.</p> <p><b>Possible arguments against government intervention:</b></p> <p>Candidates could argue that effective action may be justified but that, as Document E makes clear, we lack the necessary evidence to allow us to know what action would be effective ('the limits of social research').</p> <p>Candidates could agree with Document E that choosing to focus on the effects of family structure ignores other important causes of social problems. Intervening in the family may reveal a lot about our moral principles but it is not a rationally justified course of action if it entails ignoring class, poverty, age and sibling numbers etc.</p> <p>Candidates could argue that personal freedom is a value of such fundamental importance that it should not be sacrificed, even to increase the welfare of children, perhaps because part of the freedom of being a parent is to be free to decide what their welfare is (unless direct harm will be done to them).</p>				

**Generic mark-grid for Section B**

<b>Descriptor</b>	<b>Award Level</b>		
	<b>Good response</b> Criteria thoroughly met and communication is clear and appropriate.	<b>Reasonable response</b> Criteria partially met and communication is mostly clear and appropriate.	<b>Limited response</b> Criteria barely met and communication errors may impede understanding.
<p><b>Conclusion</b></p> <p>A conclusion is drawn which:</p> <ul style="list-style-type: none"> <li>• is clearly stated (or unmistakably implied)</li> <li>• is consistent with the reasoning as a whole</li> <li>• responds directly to the question</li> </ul>	<b>3</b>	<b>2</b>	<b>1</b>
<p><b>Reasoning's</b></p> <p>The conclusion is appropriately supported by relevant reasons. For higher levels of credit these should be developed by such means as :</p> <ul style="list-style-type: none"> <li>• examples</li> <li>• explanations</li> <li>• analogy</li> <li>• clarification of terms; definitions</li> <li>• acknowledgement (and response to) opposing positions, and counter-arguments</li> <li>• recognisable structure</li> <li>• avoidance of bare or simplistic assertion/presumption/over-generalisation</li> </ul>	<b>9 – 11</b>	<b>5 – 8</b>	<b>1 – 4</b>
<p><b>Use of source documents</b></p> <p>The reasoning is supported by appropriate reference to the source documents. For higher levels of credit this should be:</p> <ul style="list-style-type: none"> <li>• relevant to the point being made</li> <li>• accompanied by critical/evaluative comment</li> <li>• expanded or explained (if necessary)</li> </ul>	<b>5 – 6</b>	<b>3 – 4</b>	<b>1 – 2</b>

**Distribution of marks across the questions and assessment objectives for Unit 2**

<b>AO Balance</b>	<b>AO1</b>	<b>AO2</b>	<b>AO3</b>
<b>Total Section A</b>	<b>16</b>	<b>22</b>	<b>2</b>
<b>Total Section B</b>	<b>–</b>	<b>2</b>	<b>28</b>
<b>Paper Total: [70] Marks</b>	<b>16</b>	<b>24</b>	<b>30</b>
<b>Paper Total: [70] Percentage</b>	<b>23%</b>	<b>34%</b>	<b>43%</b>