

2019 VCE Extended Investigation: Critical Thinking Test examination report

General comments

In this test it is expected that students will offer a range of views about issues, and these different responses must be judged on their merits. While it is valuable for students to be able to explain why a judgment is made, such explanations are potentially reductive and difficult to make meaningful. Responses that follow a set formula are less valuable than specific and particular comments. The reasoning of students is often implicit in the responses they offer, and such reasoning may be inferred and rewarded in this test.

It is important to recognise that this is not a literacy test. Candidates' written expression is not assessed as such. Good answers may contain flawed expression and less successful answers may be well written. In all cases it is the quality of thought and explanation that is assessed, rather than the quality of writing.

Question 2 in this test was a new type of question, and Questions 5 and 10 were new variants on procon table questions in previous tests.

Specific information

Note: Student responses reproduced in this report have not been corrected for grammar, spelling or factual information.

This report provides sample answers or an indication of what answers may have included. Unless otherwise stated, these are not intended to be exemplary or complete responses.

The statistics in this report are subject to rounding that may result in a total more or less than 100 per cent.

Question 1

Marks	0	1	2	3	4	Average
%	5	20	24	32	18	2.4

This drag-and-drop item required students to see how statements related to each other in terms of a proposition, and how they were best aligned in opposition to statements provided in the table. Students were asked to consider the proposition that the advertising of gambling should be banned, and then drag each of the four (italicised) statements in the table below into one of five empty cells.

The lines in the table have been numbered for ease of reference, but were not numbered in this way in the test.

Line	For	Against
1	The advertising of gambling triggers the behaviour of gambling addicts.	
2	Advertising makes gambling seem normal and acceptable.	<i>Gambling is not bad in itself and it can be harmless entertainment.</i>
3	<i>Gambling can be dangerous for many people, so it should not be advertised.</i>	Most people can gamble without problems.
4	<i>The effect of advertising gambling is to promote gambling itself.</i>	Different forms of gambling compete for the attention of those who wish to gamble.
5	Gambling is a very serious problem for some people.	<i>Almost everything can be destructive in one way or another.</i>

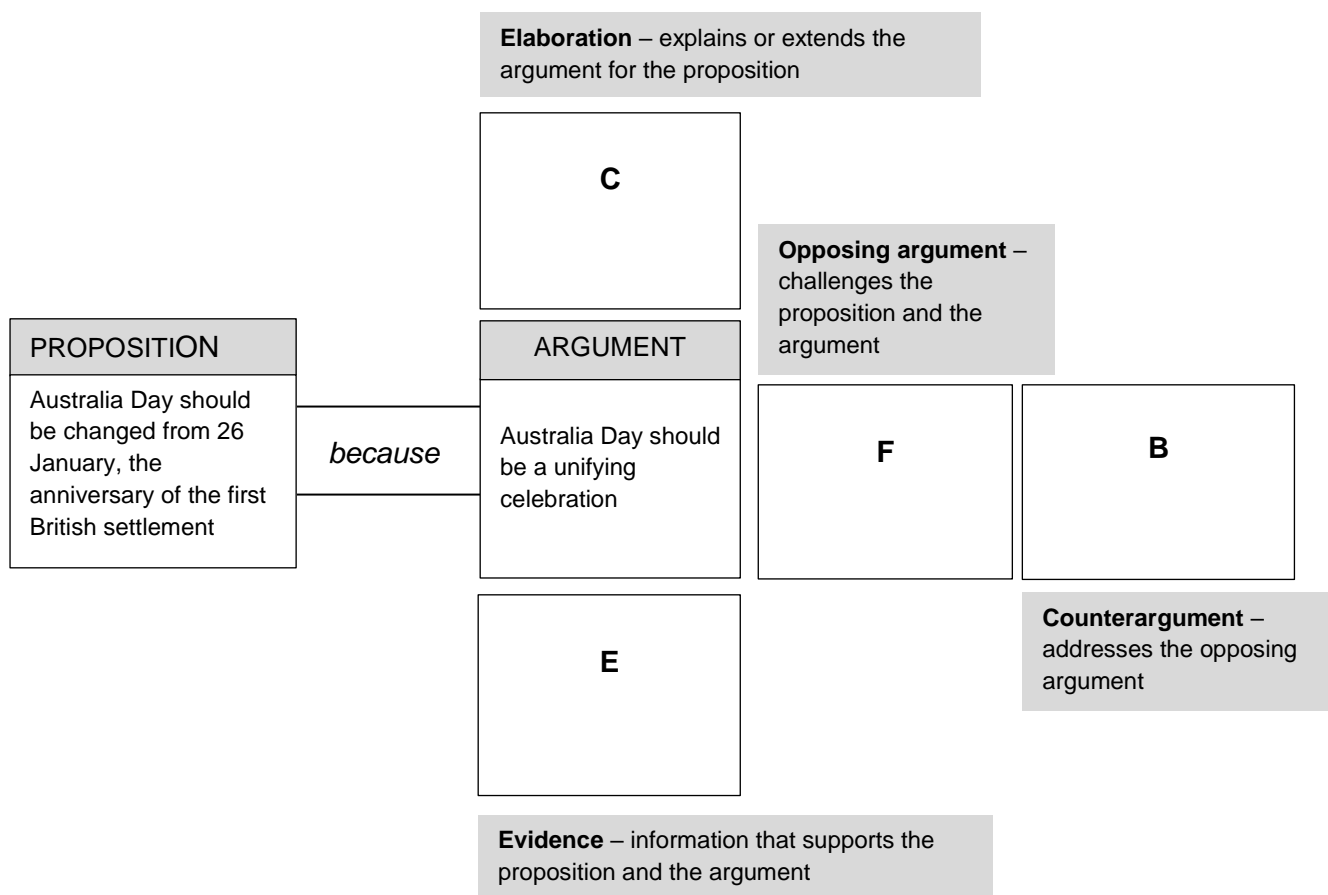
In line 3, there is a clear opposition between 'dangerous' and 'without problems', and there is a difference between 'promote gambling itself' and gambling competing for 'attention' in line 4. In line 2 there is an opposition between gambling being made to 'seem normal and acceptable' and the assertion that it is 'harmless entertainment'. At line 5 the statement that 'almost everything can be destructive' can be opposed to the statement that gambling is a 'serious problem for some people'. The **For** comment that advertising 'triggers ... behaviour' in line 1 is not directly opposed by any options. It could be opposed by a claim that advertising is not the reason why addicts gamble, but this statement was not included.

Question 2

Marks	0	1	2	3	4	Average
%	4	14	38	32	11	2.3

This was a new type of question which showed a diagram representing a line of reasoning. Students were given definitions of four terms, and were asked to drag four of six statements (**A** to **F**) into the appropriate space for each of those terms. Two of the statements did not appropriately fit any of the spaces.

The following diagram shows the answers.



- A** There were over 500 different Indigenous nations in Australia, many with distinctive cultures, beliefs and languages.
- B** Indigenous Australians have reason to mourn the arrival of Europeans.
- C** Changing the date of Australia Day would acknowledge the dispossession of Indigenous Australians.
- D** Indigenous Australians came to Australia about 65 000 years ago.
- E** An Indigenous population of up to 750 000 in 1788 declined to as little as 50 000 by 1930.
- F** Modern Australia began, and can appropriately be celebrated as beginning, on 26 January 1788.

The most challenging distinction in this question was between elaboration and counterargument because an opposing argument is likely to be related to both of these. Statement **C** is an explanation (and hence an elaboration) of why the date of Australia Day might need to be changed (in order to achieve a unifying celebration), and statement **F**, a reason for celebrating 26 January as the beginning of modern Australia, is an opposing argument. Statement **E** is an empirical statement about the negative impact of European settlement on Indigenous Australians, which is evidence for an inference that can be drawn from the proposition and argument; that is, that a day cannot be a unifying celebration if its meaning for some people is not acknowledged. Statements **A** and **D** are empirical statements that do not address the argument. While statement **C** may seem to challenge the opposing argument, it is not related to what is called ‘modern Australia’ in the opposing argument, statement **F**. Statement **B** directly challenges statement **F**’s claim about the suitability of the date as a basis for celebration.

Question 3

Marks	0	1	2	3	4	5	6	Average
%	2	12	30	27	17	10	3	2.9

This question was an argument assessment of for and against statements about mandatory sentencing. An introductory statement was offered to outline the issue.

While the question directed students to focus on one argument, most compared a range of arguments. This is a reasonable strategy, although to achieve a high score it was important to explain why one statement was most significant or decisive. This explanation could be implicit: it was not necessary for students to add a separate commentary on the strength of the argument they had just presented.

The following high-scoring response provides comprehensive reasoning about the responsibilities of a judge.

The argument that is most convincing is the argument that mandatory sentencing, disregards individual situations and circumstance as it clearly shows its position on the proposition and provides clear reasoning behind how the argument has been formed. The word 'discretion' in the proposition directly relates to the second part of the argument regarding taking into account individual circumstance, By including this reasoning the argument is directly engaging with the proposition and explicitly showing its support.

In consideration of all of the arguments, argument C's reasoning is the most sound as it is the least open to be challenged. The creation of mandatory sentencing by its very nature, does not take into account individual circumstance as it is an objective standard for the entire community. The implications of the argument can be determined as follows. A judge's responsibility is to act in accordance with the principle of fairness, allowing them to apply the law in the matter in which they see fit, depending on the circumstances of the case. By implementing mandatory sentencing you are taking away this legal principle of taking individual circumstances into account thereby inhibiting fairness from being achieved. The implications of this argument are extremely rational, and the premises logically lead to the conclusion, therefore it can be seen to be the most convincing argument of those provided.

Question 4

Marks	0	1	2	3	4	5	6	Average
%	1	4	11	28	28	21	8	3.8

In this question candidates were asked to consider arguments for and against the proposition that superheroes are good role models for young people and then offer their own position.

The following response would score highly because it makes a convincing case that unrealistic ideals can trivialise important issues.

Superheroes are consistently cited as the heroes of young children across the world. They are unrealistic and often rely heavily on outdated tropes and stereotypes which can influence the minds of young people. The idea that a strong man will always swoop down to protect a distressed maiden, who are often beautiful, slim women, and not representative of common body types or ethnicities at all. Superhero comics and movies leave children with a desire to be someone they are not and someone they could never be. Superheroes also take important issues and trivialise them, they make it seem like the only way to stop a terror threat or bank robbery is with the help of super human beings swooping in the nick of time, thus ignoring the millions of real-life people who would actually be there to save the day. The many paramedics,

police officers, firemen, defence force, who put themselves in the line of danger day in day out to protect civilians everywhere. They do not receive the recognition they deserve, and are much more deserving heroes than the brainchild of ancient comic writers and story-tellers. Whilst superheroes provide a good, entertaining story all they do is replace the real heroes of our world. They are not good role models because anyone trying to be them is instantly set up for failure and disappointment in life, and wastes their time when they could be doing real-life things to help people. Superheroes do not inspire change, they do not spur people to want to take up volunteering, or do what's best for their family and friends and therefore superheroes are not good role models.

On the other hand, the following response, arguing the opposite, would also score highly.

Superheroes are undoubtedly good role models for you people throughout society as they are able to broaden the minds of young people and can demonstrate important and positive personal characteristics.

It is true that superheroes have always been an integral part of society, whether it be through comics, movies or art. Yet it is important to consider why they have played such a fundamental and increasingly influential role throughout society for such a long time. Superheroes can be created as the epitome of good character and can thereby be represented as not only influential but inspiring.

The variety of superheroes created can seemingly depict a whole range of good virtues. In this young people are able to learn about various qualities such as persistence, unselfishness and humility. Yet these characteristics are not limited to just these few, it can range from courage, optimism and hope. Those characters are illustrated as attainable because they too have their personal weaknesses yet superheroes often demonstrate how they overcome this personal adversity. Hence it is the excitement of the imaginative powers bestowed upon superheroes that excite the individual, but it is their virtuous characteristics that make them great role models for young people.

In a rapidly evolving world, superheroes can play important roles in informing young people about social issues such as racism and sexism. This can be demonstrated through the African American actor in 'Black Panther' and the female lead actress in 'Captain Marvel' that can inspire the development of social rights and become a catalyst for young people to propel society with more confidence. Therefore the importance of superheroes as role models is clear.

In assessing the arguments offered in answer to both Questions 3 and 4 the following criteria were considered:

- understanding of the nature of the issue
- soundness and plausibility of the claims
- implicit or explicit reasoning leading to a judgment
- evidence and examples offered to support a judgment.

The criteria do not include consideration of rhetoric or persuasive devices.

Question 5

Marks	0	1	2	3	4	5	6	Average
%	2	13	31	30	16	8	2	2.8

In this new type of question candidates were asked to write a research question on one of the issues dealt with in Questions 1 to 4. The question gave candidates a choice about the issue they would write a question about and the material in previous questions provided some statements about the issues, but all students were required to select from the same set of issues.

This question was the obverse of Questions 6 and 7, in which candidates evaluated research questions, but the scoring of Questions 5–7 involved similar considerations, such as the following:

- clarity and focus of the question(s)
- substance and significance of the question(s)
- impartiality and objectivity of question(s) and research method
- the opportunities for gathering useful data
- the likelihood of reaching an answer through the research
- the practicality and manageability of the research.

The following response involves a quite straightforward question, but the discussion of how the question might be answered would score highly.

To what extent do Eastern Victorians support the changing of the date of Australia day?

Qualitative data may be collected via a mixed method of surveys and interviews to accurately obtain a scope of opinions and attitudes toward the changing of the date of Australia Day. The researcher may use open ended questions concerning how much the participant knows about the history of Australia Day, their ethnicity, why they believe it should and shouldn't be changed to be able to create a clear picture of the level of support for the change of Australia Day. Quantitative data may also be collected via surveys through the use of a Likert Scale that measures from 1-6 a persons rating of a particular question. For example, the researcher could ask Do you believe that the first day of settlement in Australia marks the start of the nation? where 1 represents a strongly disagree and 6 represents a strongly disagree. Surveys used in conjunction with interviews are also an extremely common and effective way of collecting data. Interviews may be used to probe further into why people may have support or not for the change of date, and allow opportunity for possible further research. The triangulation of data from the qualitative and quantitative survey data, qualitative interview data then enables the researcher to draw deductions from the broad responses of a large sample (from the survey) to the more specific individual responses of the interview. Both qualitative and quantitative data are important to collect in regard to this research question as quantitative data is less likely to be influenced by experimenter bias, whereas qualitative data provides more specifically descriptive information about the support to the date of Australia Day that quantitative data does not provide.

A representative and proportional sample may be selected to address this research question via random sampling. As the research question is relevant to Australians, it is important that the sample be a fair representation of the population. Random sampling may occur by using a computer generated system to select at least 500 names of people who live in the Eastern Victorian region to ensure everyone had an equal chance of selection.

Questions 6 and 7

Marks 6	0	1	2	3	Average
%	8	43	40	9	1.5

Marks 7	0	1	2	3	Average
%	7	35	43	15	1.7

Questions 6 and 7 involved analysis and assessment of research questions, envisaging how a research question might be answered. High-scoring responses focused on what would be involved in answering a particular question.

Question 7, about which question would be the least manageable in practice, seemed to present less challenge than Question 6, about which question would be the most manageable. The diversity of the high-scoring responses can be seen in the following examples from different students, offering contrasting arguments about research question C.

Research Question C is the most manageable in practice as it has a specific, contained scope and is very contained to the environmental impacts on small lakes in central Victoria. By specifying the time period of the 1920s, non-native frog species, and a small lake in central Victoria, the research question effectively narrows the scope of research down to a specific geographic location which makes this research manageable. Furthermore, the non-native frog species also limits down the population so that a representative sample of frogs may be more easily obtained. By specifying environmental impacts before and after the 1925 frog introduction, this research question also has a clear dependent variable and independent variable of the introduction of frogs. Primary statistical data from the 1920s may also be obtained to be able to compare to the current statistics concerning the environmental impact of the frogs on the lake.

Question C would be least manageable in practice because it requires the researcher to locate previous data, or otherwise assume the environmental changes from the 1920s. An almost 100 year time span is quite wide and many changes would have occurred to the environment. It would be difficult to prove that these changes were made by the frog species being studied, as human tampering has resulted in many environmental changes. Furthermore, data collection would be quite difficult, as one would have to cover the entire lake to find results and then compare it with 100 years worth of data, much of which may not exist, and the researcher has not specified what changes the frogs could make to the environment, making the scope of data large and unmanageable. Thus, question C proves to be most troublesome and difficult to answer.

Questions 8 and 9

Marks 8	0	1	2	3	Average
%	2	26	48	24	2

Marks 9	0	1	2	3	Average
%	4	32	46	18	1.8

These questions would seem to be concerned with matters of preference or opinion, but students were able to make a range of arguments for and against pessimism and optimism. Not surprisingly, they appeared to find it more challenging to argue for pessimism.

The following pair of responses, by the same student, shows the ability to take both sides of an issue and make effective arguments for and against, without resorting to merely making a series of statements and their opposites.

Optimism gives people hope and leads to good mental health. If people are going through a tough time, such as a breakup or losing their job, it is much better to adopt an optimistic attitude,

an attitude that things will work out for the best, because otherwise serious health issues can occur, such as depression or anxiety. Optimism can also reduce stress by allowing people to believe that they will do well on tests, assessments or tasks in jobs. People who are optimistic are also probably more likely to be able learn more new skills, as they have a can-do attitude that lets them believe they can achieve anything that is possible. While people could argue that optimism can lead to a lack of effort, after all, if everything is going to work out anyway, why try hard to make it so? This is a mistaken view of optimism, however, as optimism is not necessarily taken in hand with a lack of realism. Optimists simply believe that they can achieve anything, not that they don't have to work hard to achieve those things.

Pessimists are better at thinking critically about things, a skill especially helpful in important jobs such as engineering and science. Adopting a pessimist attitude, thinking about every possible thing that can go wrong, is very helpful in the design process. If a pessimist is designing a bridge, it is more likely to be safe, as the pessimist is more likely to foresee any possible issues with it beforehand and fix them. This same logic can be applied to the scientific method. A pessimist is more likely to create better, more controlled experiments, because they are more aware of possible issues with the experiment that could skew or distort the results. Pessimism is an important outlook for ensuring public safety and more methodical, precise advancements in science and engineering. While a pessimist is more likely to feel bad when things go wrong for them, life is more likely to go well for them, as they are more likely to take efforts to ensure that things go well

Question 10

Marks	0	1	2	Average
%	17	45	38	1.2

This task was a variant on Question 2. It was presented as a line of reasoning, and students were asked to provide an opposing argument to the proposition and argument that prison conditions should be unpleasant because prison should be a threat that deters crime. The term *opposing argument* was used with the same meaning as applied in Question 2: an argument that 'challenges the proposition and the argument', rather than either of these alone.

This task of providing a nominated argument was challenging because it is more tightly constrained than making an argument for or against, as in Questions 8 and 9. The task involved a decision about whether an argument directly challenges the proposition and argument, rather than being a mere contradiction (such as 'prison does not deter crime') or a different argument (such as 'harsh prisons are cruel and uncivilised').

The following table indicates how the two available marks might be distributed.

Prison conditions should not be unpleasant because	
Score 2	<i>Directly challenging the proposition and argument</i> Harsh prisons will embitter or alienate prisoners Prison is a harsh punishment in itself; Imprisonment is a deterrent in itself Imprisonment should aim to reform prisoners Prisons don't need to be harsh to deter crime
Score 1	<i>On the issue but not directly addressing the proposition and argument</i> Harsh imprisonment is an abuse of human rights Being harsh to prisoners is cruel and uncivilised Prisoners have the same rights as other citizens
Score 0	<i>Mere contradiction of the argument or irrelevant assertion</i> Prison does not deter crime; There are too many people in prison Prisons are costly

The following high-scoring response claims that humane rather than harsh conditions would be more effective in preventing and deterring crime, challenging the proposition and argument and questioning the soundness of the link between them.

The poor conditions in prisons do little to deter crime, and, in fact, perpetuate the cycle of offending, as prisoners are not provided with the opportunity to reform and reenter society. More positive and humane conditions within the prison system would be more effective in preventing and deterring crime on a national level.