
THINKING SKILLS

9694/21

Paper 2 Critical Thinking

May/June 2016

MARK SCHEME

Maximum Mark: 45

Published

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- 1 (a) Explain the possible significance of Source B in relation to the allegation that Mrs Rush allowed her dog, Toby, to foul the pavement. [2]

It suggests a possible motive for a dog warden to have made a false allegation [1] in order to increase the income from fines/protect his employment [1].

- (b) (i) State and briefly explain one factor which strengthens the reliability of Mrs Rush's evidence in Source D. [2]

- As Toby's owner [1], she has good ability to know his age and state of health [1].
- Because her claims about the dog's age and health can easily be checked [1], she is unlikely to risk making untrue statements [1] and thereby getting herself into worse trouble [1].
- Mrs Rush admits that she lost sight of Toby [1], even though she has a vested interest to claim that he was in her sight the whole time [1].
- Her evidence is plausible/coherent [1], because if she was where she says she was and if Toby's condition is what she says it is, and the route from the park to Manor Road is as dangerous as she says it is, it is very unlikely that he could have travelled to Manor Road and back [1].

- (ii) State and briefly explain one factor which weakens the reliability of Mrs Rush's evidence in Source D. [2]

- She has a vested interest to misrepresent the truth [1] in order to avoid paying the fine [1].
- Because Toby was lost for a time [1], she has poor ability to see whether he fouled the pavement or not [1].

- (c) How well does Source F support the dog warden's claim that Toby fouled the pavement? [3]

Not very well (neither well nor badly) [1].

Mrs Rush could be paying because she knows or suspects that the accusation is true [1].

The letter does not suggest that she is paying under protest [1].

Alternatively, she could be paying because she cannot prove it is not true/is not confident of receiving a fair trial [1] and she cannot risk incurring a heavier fine [1] or because she wants to avoid the time and stress of attending court [1].

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- (d) How likely do you think it is that Mrs Rush allowed her dog to foul the pavement?
Write a short, reasoned argument to support your conclusion, with critical reference to the evidence provided and considering a plausible alternative conclusion. [6]

Level 3 5–6 marks	A strong answer, which provides a reasoned argument including thorough evaluation of all or most of the evidence to support an acceptable conclusion in terms of probability and evaluates the plausibility of at least one alternative conclusion.
Level 2 3–4 marks	An answer which evaluates some of the evidence, draws an acceptable conclusion in terms of probability and may mention the plausibility of at least one alternative conclusion.
Level 1 1–2 marks	A weak answer, which refers to some of the evidence, possibly including a simple evaluative comment. The conclusion may be unstated or over-stated.
Level 0 0 marks	No credit-worthy material.

Indicative content

The possibilities are:

- Toby really did foul the pavement on Manor Road when he had run away.
- Mrs Rush was present when Toby fouled the pavement on Manor Road.
- The dog warden made a mistake.
- The dog warden made a false accusation.

Candidates may argue in favour of any of these. As explained in the answer to part (a), Source B provides a possible motive for the dog warden to have made a false accusation. As explained in the answers to part (b), Mrs Rush is in a better position than the dog warden to know what happened, but she has a VI to lie about it. The fact that Mrs Rush eventually paid the fine (Source F) is very weak evidence of her guilt, since fighting the case in court would run the risk of incurring a much heavier fine.

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- 2 (a) Source A and Source B both claim that overweight people are more likely to die in road accidents than people of average weight. Identify one difference in what they mean by these claims. [3]

Source A argues that overweight people are more likely to **cause** a serious road accident than less heavy people [1], whereas Source B argues that overweight people who **are involved** in a serious road accident [1] are more **likely to die** than less heavy people who were involved in an equivalent accident [1].

Allow for 1 mark: Source A refers to motorists, whereas Source B considers both drivers and passengers.

- (b) Source B claims that losing weight may be a good way ‘to reduce the chance of dying in a car accident.’ How well does the graph in Source C support this claim? [3]

Partially/not very well (neither well nor badly) [1]. It does support this claim in the case of overweight people (*allow* supports only in the case of severely and dangerously overweight people) [1], but not in the case of people whose weight is considered normal [1]. Since underweight people are at enhanced risk, they should certainly not lose weight [1].

Give the judgment mark if two judgments are given – one for overweight people (well) and one for others (badly).

- (c) From the evidence in Source D, it is possible to conclude that overweight people who travel in cars should lose weight. Suggest an alternative conclusion which could be drawn from the same evidence. [3]

Car designers should re-design [1] safety features, especially seat belts [1] in order to make them suitable for a wider range of body sizes/overweight people [1].

Award 1 mark for marginal conclusions such as ‘overweight people should not wear seat belts’, ‘overweight people should not travel in cars’ or ‘overweight people should take greater care to avoid accidents.’

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(d) ‘Overweight people should lose weight in order to avoid being killed in road accidents.’

To what extent do you agree with this claim? Write a short, reasoned argument to support your conclusion, using and evaluating the information provided in Sources A–D. [6]

Level 3 5–6 marks	A reasoned argument, which uses and evaluates all or most of the evidence provided.
Level 2 3–4 marks	A simple argument, which uses and/or evaluates evidence.
Level 1 1–2 marks	A weak answer, which makes some correct reference to evidence but consists of opinion and/or assertion rather than argument or an argument which makes no reference to evidence.
Level 0 0 marks	No credit-worthy material.

Indicative Content

- Source A claims on the basis of a large sample that overweight motorists are at a significantly enhanced risk of being involved in a fatal accident, but the suggested explanation is speculative.
- Sources B and C show that overweight people are at greater risk of death than less heavy people involved in an equivalent accident.
- Source D offers a plausible explanation of why overweight people might be at enhanced risk.
- So overweight people could presumably reduce their risk of death in a road accident by losing weight, but they would not eliminate it altogether.
- So the claim is overstated, but a weaker version is supported by the evidence.

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- 3 (a) Using the exact words from the passage as far as possible, identify the main conclusion. [2]

2 marks: The cumulative evidence is overwhelming that members of other species from distant planets have contacted the Earth on many occasions.

Accept version starting at 'members...'

1 mark: Paraphrase of the 2-mark answer.

- (b) Using the exact words from the passage as far as possible, identify three intermediate conclusions. [3]

1 mark for each of the following, to a maximum of 3:

- It is very likely that there are many alien species which have both the desire to explore the universe and the ability to do so.
- (we can only conclude that) someone was deliberately transmitting them [radio signals] from a distant planet in the hope that someone from elsewhere in the universe would reply.
- By far the most likely explanation of these observations is that the UFOs are vehicles containing visitors from other planets.
- There is also a lot of persuasive evidence that people have been abducted by aliens.
- Those idiots who refuse to believe this must be motivated solely by prejudice.

Allow one additional element or one significant omission in each case.

If more than three answers are offered, mark the first four only.

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- (c) Evaluate the strength of the reasoning in the argument. In your answer you should consider any flaws, unstated assumptions and other weaknesses. [5]

Marks for each evaluative point as follows, up to a maximum of 5 marks:

2 marks: Valid evaluative point, clearly expressed.

1 mark: Weak attempt at a valid evaluative point.

Paragraph 1

- This paragraph assumes that an actual infinite is a coherent concept. [It may be unlikely that candidates will make this philosophical point, but since it is such an important weakness in the reasoning, it must be credited if anyone does say it.]
- Assumption: that the cited estimate of the number of planets suitable for life to develop is not eccentric/would be accepted by experts as reasonable.
- Assumption: that intelligent life has actually developed on some of the planets which have the right conditions for it.

Paragraph 2

- Weak support: a single piece of evidence from thirty years of listening provides very weak support for the claim. In fact, the paucity of evidence would give better support to a claim that beings from distant planets are **not** trying to contact us.
- Incoherence (*non sequitur*): the origin of the radio signals in part of the universe where there are **no** planets does not appear to support the conclusion that they derive from a distant planet.
- Appeal to ignorance: the third sentence assumes that if 'we' do not know how the radio signals could have occurred naturally, there is no such way. *This may be expressed as an assumption.*
*Do **not** credit an assumption that the cause of the signals must be alien life.*
- Assumption: that anyone transmitting from a distant planet would not be 'natural'.
- Vested interest: because the astronomers are committed to finding extra-terrestrial life, they have a VI to make the most of any evidence, however intrinsically weak it may be.

Paragraph 3

- Restricting the options: the reasoning in this paragraph implies that the only object which could be mistaken for a UFO is a weather balloon. *This may be expressed as an assumption.*

Paragraph 4

- Assumption: that it is not possible to have vivid dreams in the daytime.
- Assumption: that witnesses have not copied or imitated one another's testimony.

Paragraph 5

- There is a problem of meaning with the term 'contacted' in the claim (MC) 'members of other species from distant planets have contacted the Earth on many occasions': by and large the Earth is unaware of having been contacted.
- The second sentence is an *argumentum ad hominem*, attacking the intelligence and motivation of the author's opponents instead of their arguments.
- The third sentence is a straw man: many of those who do not believe in UFOs and alien abduction have better arguments than this to support their views.

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- (d) 'The inhabitants of Planet Earth should try to contact life in other parts of the universe.'

Write your own short argument to support or challenge this claim. The conclusion of your argument must be stated. Credit will not be given for repeating ideas from the passage. [5]

Level 3 4–5 marks	Developed, coherent argument. Reasons strongly support conclusion. Development may include intermediate conclusion or apt examples. Simply structured argument – 4 marks. Effective use of IC etc. – 5 marks.
Level 2 2–3 marks	A simple argument. One reason + conclusion – 2 marks. Two or more separate reasons + conclusion – 3 marks.
Level 1 1 mark	Some relevant comment.
Level 0 0 marks	No relevant comment.

*Maximum 3 marks for wrong conclusion or if conclusion is implied but not stated.
No credit for material merely reproduced from the passage.*

Specimen level 3 answers

Support (117 words)

Although it is not certain that intelligent life exists on any other planet than this one, it is at least fairly likely. And the potential benefits to be gained from making contact are great. If aliens are hostile towards us or afraid of us, we can reassure them that we mean them no harm. If they want to be friends with us, we can probably help each other in many ways. It is unlikely that the problems which harm or threaten them are the same ones which we find hard to resolve, and so we can share solutions and resources.

Therefore the inhabitants of Planet Earth should try to contact life in other parts of the universe.

Challenge (101 words)

The evidence for the existence of intelligent life anywhere other than on Planet Earth is very thin. Even if such beings do exist, they would have to be very advanced in order to receive communications from Earth and to reply to them. Since we do not know the alien language, we know neither how to send messages which could be understood on other planets, nor how to interpret any response we may receive. These barriers to communication are too great to be overcome.

Therefore the inhabitants of Planet Earth should not try to contact life in other parts of the universe.