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**THINKING SKILLS**

**9694/21**

Paper 2 Critical Thinking

**May/June 2016**

**1 hour 45 minutes**

No Additional Materials are required.

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**READ THESE INSTRUCTIONS FIRST**

An answer booklet is provided inside this question paper. You should follow the instructions on the front cover of the answer booklet. If you need additional answer paper ask the invigilator for a continuation booklet.

Answer **all** the questions.

The number of marks is given in brackets [ ] at the end of each question.

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This document consists of **6** printed pages, **2** blank pages and **1** insert.

- 1 Study the evidence and answer the questions that follow.

### Source A

**News report**

*From Litho Gazette*

18 December 2013

In recent weeks, the Gazette has reported increasing numbers of complaints about dogs fouling\* the streets in defiance of the law prohibiting owners from allowing this. In response to these complaints, the Litho Town Council has decided to appoint two dog wardens, who will have the power to issue fixed-penalty notices for fines of \$50 on anyone who allows their dog to foul the pavement. Some councillors have complained that this will be a waste of money, but the leader of the council says the scheme will be self-financing, because the money raised by the fines will be sufficient to pay the costs of employing the wardens.

\*fouling: leaving excrement

### Source B

**Memo**

*From Head of Environmental Services, Litho Town Council to Dog Wardens*

15 February 2015

As you know, your appointment was made on the basis that the income generated by fixed-penalty fines would pay for the cost of your employment. However, the income in recent months has fallen short of the amount required. The overall cost of employing each dog warden has been calculated as \$5000 a month. In order to meet these costs, each warden needs to issue 100 fixed-penalty notices a month. In future, the performance of each dog warden will be monitored against this target, and anyone who persistently fails to meet the target will be dismissed.

### Source C

**Letter**

10 May 2015

Dear Mrs Rush

One of our dog wardens has reported that your dog, Toby, fouled the pavement in Manor Road on 3 May 2015. A fixed-penalty notice has been issued, and you must pay \$50.

Environmental Health Department, Litho Town Council

**Source D****Letter**

12 May 2015

Your letter imposing a fixed penalty fine must be based on a mistake. My dog, Toby, is an elderly, small terrier, who can only walk short distances. On 3 May, he wandered away from me in Litho Park, but a friend found him on the edge of the park and returned him to me. The park is a mile and a half away from Manor Road, and to get there Toby would have needed to cross several busy roads. It is quite impossible that he could have walked to Manor Road, fouled the pavement there and then returned to be found in the park where he had gone missing. I therefore do not intend to pay the fine, which must have been imposed in error.

E Rush

**Source E****Letter**

14 May 2015

Dear Mrs Rush

If you wish to contest the fixed-penalty notice, you will have to appear at the Magistrates' Court, where the maximum fine under the relevant law is \$1000.

Environmental Health Department, Litho Town Council

**Source F****Letter**

21 May 2015

I enclose a cheque for \$50 in settlement of the fixed-penalty fine imposed on my dog, Toby.

E Rush

- (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]
- (b) (i) State and briefly explain one factor which **strengthens** the reliability of Mrs Rush's evidence in Source D. [2]
- (ii) State and briefly explain one factor which **weakens** the reliability of Mrs Rush's evidence in Source D. [2]
- (c) How well does Source F support the dog warden's claim that Toby fouled the pavement? [3]
- (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]

2 Study the evidence and answer the questions that follow.

**Source A**

**News report**

It has been revealed that overweight motorists are more than twice as likely to be killed or seriously injured in road accidents as are lighter people. A study of 26 000 people involved in car crashes found that heavier people were far more at risk. Experts say this could be because overweight people are more likely to suffer from sleep disorders and so are more likely to fall asleep at the wheel. The study took place in Seattle, Washington, in the United States.

**Source B**

**News report**

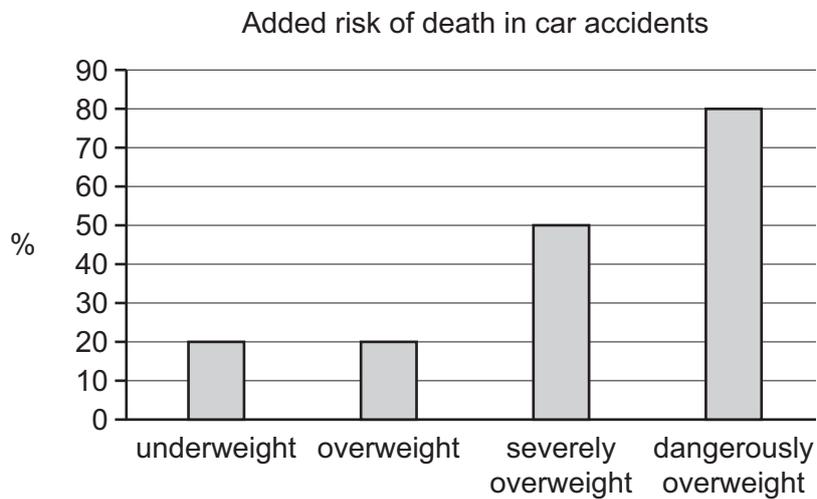
Driving safely and wearing seat belts are two ways to reduce the chance of dying in a car accident. Losing weight might be another one. A recent study, led by Dr Thomas R Rice, of the Division of Environmental Health Sciences at the University of California at Berkeley, looked at whether there was any link between being overweight and the likelihood of dying from injuries suffered in car accidents.

“Findings from this study suggest that overweight people are more likely to die from traffic-collision-related injuries than people of normal weight involved in the same sort of collision,” the researchers wrote.

**Source C**

**Research data**

*Findings from the University of California at Berkeley study*



**Source D****Research report**

Research has found that overweight people travel farther in their seats before their seat belts engage in the pelvic area during a car crash, compared to normal-weight people. The delay in seat-belt activation is due to an excess of soft tissue in the abdomen, which prevents the belt from gripping the pelvis firmly. The upper body is held firmly, but the lower body is not. This can put intolerable strain on vital organs, leading to an increased risk of serious injury or death.

- (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]
- (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]
- (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]
- (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]

**3** *Read the passage and answer the questions below.*

- 1 Many scientists believe that the universe is infinite. They infer that a very large number of planets have the conditions in which life could develop. One estimate is that over a hundred thousand billion potentially-life-bearing planets exist. 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.
- 2 Since 1984, astronomers from the Search for Extraterrestrial Intelligence (SETI) have been scanning the airwaves looking for radio signals from outer space. They believe they were successful on one occasion. In 2003, they detected signals from an area in space where there are no planets or stars. Since we know of no way in which these signals could have occurred naturally, we can only conclude that someone was deliberately transmitting them from a distant planet in the hope that someone from elsewhere in the universe would reply.
- 3 Many people have reported seeing unidentified flying objects (UFOs). Some of the reports may have been practical jokes, and others based on genuine mistakes, but the people who have made the reports include airline pilots, military personnel and police officers – people who know what a weather balloon looks like and would not mistake one for a UFO. By far the most likely explanation of these observations is that the UFOs are vehicles containing visitors from other planets.
- 4 There is also a lot of persuasive evidence that people have been abducted by aliens. Although some of the witnesses may be delusional, most of them seem normal, rational and credible. Since many of those experiences occurred in the daytime, they cannot be explained away as vivid dreams, and the similarities in the accounts of these experiences cannot be mere coincidence.
- 5 The cumulative evidence is overwhelming that members of other species from distant planets have contacted the Earth on many occasions. Those idiots who refuse to believe this must be motivated solely by prejudice. Their only argument is circular: aliens do not exist; so anyone who claims to have encountered them is either mistaken or lying; therefore there is no evidence that aliens exist.

- (a) Using the exact words from the passage as far as possible, identify the main conclusion. [2]
- (b) Using the exact words from the passage as far as possible, identify **three** intermediate conclusions. [3]
- (c) Evaluate the strength of the reasoning in the argument. In your answer you should consider any flaws, unstated assumptions and other weaknesses. [5]
- (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]



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